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ART. I.—*A Journal of Science and the Arts, No. III.* Edited at the Royal Institution of Great Britain, by William Thomas Brande, F.R.S. L. and E. Prof. Chem. R.I. Published Quarterly. London. October, 1816. 8vo. pp. 222.

WE shall in future give a brief synopsis of each Number of this very useful publication. It contains perhaps the only adequate account of what is going on in the scientific world; and we think we shall be rendering a service to most of our readers by cursorily reviewing each of its several articles. They will perceive that the Editor has himself undertaken to give, in each Number, an Analysis of the scientific Journals published on the continent:—so that in analyzing the contents of his own Journal we shall be able to make up a quarterly report of all the philosophical news in the old world. It will frequently be beyond our power, *spatiis exclusi iniquis*, to detail all that is done in each of the different articles;—but then we think it will be a satisfaction even to know what the author is about..

Art. I. *An Inquiry into the Varieties of Sensation, resulting from the Difference of Texture in the sentient Organ.* By T. R. Park, M.B.F.L.S.

THIS article is supplementary to another in the second Number—*On the Laws of Sensation*. As it forms a part of an extensive Inquiry, however, we shall say nothing of its contents till the whole is completed; when we will take occasion to bring the subject before our readers in one connected review.

Art. II.—*A Report on a Memoir by Signor Monticelli, perpetual Secretary of the Royal Academy of Sciences of Naples, entitled, A description of the Eruptions of Vesuvius, which took place on the 25th and 26th of December, 1813.* By A. B. Granville. M. D. F. L. S. M. R. C. S. &c. For. Sec. Geol. Soc.

SINCE 1812 the constant eructation of lava had completely rounded over the crater of Vesuvius; insomuch that there

was not, upon the whole volcanic cone, an aperture of sufficient dimensions for the vent of an eruption. On the eastern side, indeed, there was an opening of about eleven feet in diameter, which continued to emit ashes and pumice stones;—and there was, besides, on the north side a smaller aperture which kept up an impotent eruption,—but was finally choked and closed by its own vomitings. In May 1812, the emissions of the larger opening were accompanied by a very slight quake of the earth; but it passed off without much violence; and the atmosphere became clear, serene, and insufferably warm. The winter of 1813 was distinguished for an unusual quantity of rain and snow: yet in the middle of May, when the heat of spring had scarcely begun, signor Monticelli observed that the water in the chief wells of Naples had fallen upon an average between eight and nine feet. On the 17th of May and 9th of June,—notwithstanding, as our readers know, there is no ebb and flow of the tides in the Mediterranean,—the sea along the shores adjacent to Naples receded very suddenly to the distance of from ten to fifteen yards. During the months of June, July, and August, the west and south winds brought constant rains; yet the water in the Neapolitan wells continued to fall; and in that particularly which supplied the great fountain of Resina, the ultimate depression was no less than thirty-nine feet below the common level. During the whole of this period, too, the mountain itself gave evident signs of being in labour. Detonations, attended with slight oscillations of the earth, and followed by emissions of smoke, ashes, and flame, were repeated with increasing violence through nearly the whole of August; and on the 26th of that month a gigantic column of flame shot up from the crater, amidst reiterated explosions, and was blown by the fresh north east wind so as to wave towards Torre del Greco. For many successive nights the same phenomenon occurred; but the mountain was at length exhausted, and every thing about it once more became silent and calm.

During the occurrences of August the temperature of the air continually increased; and in one particular instance the mercury rose from 66° to 76° of Fahrenheit. The latter temperature continued till the 26th and 28th of October; during the caliginous nights of which two days the vivid flashes of lightning, the successive flames of the volcano, and the deep rumbling of the mountain, contributed to inspire the inhabitants with all the terrors connected with the apprehension of immediate death. Then came a heavy rain, mixed with hail; all became calm again; nor did any thing memorable take place for the space of nearly a month. On the 25th of December, however, the atmosphere became dense and black: the sum-

mit of the mountain was concealed in an envelop of heavy clouds which had been accumulated by a strong easterly gale; and, towards ten in the morning, a few detonations, accompanied by the quaking of the earth, 'announced, too well, what was the event to be apprehended.' The wind soon after shifted a little to the north; the clouds were gradually dispersed;* the bellowings of the mountain became louder; and, at two in the afternoon, a most violent and deafening explosion was succeeded by a lofty column of dense black smoke, which soon filled the basin—overran—and was seen descending on all sides. In the mean time, too, the mouth of 1812 was doing its share by throwing out with incredible fury, and in every direction, smoke, ashes, and ignited stones.

Night added greatly to the sublimity of the scene. The torrents of lava which descended the mountain, and were occasionally obscured or hidden by the intervention of black smoke,—the huge masses of burning matter which leaped, and thundered down its sides,—the showers of red-hot rocks, flints, and pumice-stones which were seen falling through the air, accompanied by the tremendous explosions which made the whole mountain tremble, and shook the largest houses in Naples,—all contributed to overwhelm the spectator with terror, and to shrink him into a sense of his own littleness and impotence. A short respite was given to him by a calm;—but it was only to confound him the more by the eruption which followed. On the 26th all the phenomena of the preceding day were repeated with augmented violence; insomuch that the inhabitants of the subjacent villages were obliged to desert their houses in order to escape a deluge of consuming fire. By nine o'clock in the evening, however, the mountain was about exhausted; and nothing could now be seen, except a languid emission of black smoke, with showers of coarse volcanic sand. With some immaterial alterations the volcano continued in this state till the month of May, 1814; during the 9th and 24th of which there were showers of rain and red-hot sand, that destroyed vegetation wherever they fell.

Three days after the last violent eructation, signor Monticelli was enabled to attain the summit of the mountain; though even then his eyes were not a little annoyed by the volumes of smoke, and his nose by the strong smell of muriatic vapours. At intervals the surface of the cone was pierced with small holes; which, in consequence of their emitting smoke, were cal-

* We have here followed S. Monticelli's account of the matter:—but, for ourselves, we cannot conceive how a north-easterly wind should dissipate clouds which had been gathered by an easterly one.

led *fumurole*: the ground was covered 'with saline sublimations of various colours with perfectly crystallized modifications;' and here and there were 'large solid masses formed by the conglomeration of porous lava, pumice-stones, and scoriae, held firmly together by some tenacious substances.' Some of the sublimations were deliquescent; and the red and yellow in particular, furnished a reddish-yellow liquid which stained paper and the skin. It had an astringent taste—a muriatic smell—reddened litmus-paper—possessed an oily fluidity; and according to an analysis by professor Conti of Rome, was found to contain 20 parts of iron, 10 of alumina, 6.14 of lime, 9.97 of free muriatic acid, and 53.89 of water.—In April, 1814, signor Monticelli revisited the mountain; and 'was not a little surprised to find, that a smell of sulphurous acid, deeply affecting the fauces, had succeeded to that of muriatic acid, and that instead of the muriatic salts, the openings and fumarole still remaining, were thickly lined with sulphur and sulphate of lime.' Some lava, too, which the signor had before considered as grumous, was now found covered with crystallized oligistic iron; 'a circumstance which calls to mind (adds the Reporter, Mr. Granville) the curious facts which I lately had the honour of noticing, in my Report on M. Methuon's Memoir on natural crystallization.' We have turned back to the paper here alluded to,—and, as it contains what, we think, may be new to mineralogists in this country, we shall make no apology for laying before our readers an abstract of the article.

M. Methuon, one of the chief engineers of the French mines, has published what he calls *A Discovery of the Manner in which are formed earthy and metallic Crystals, not of a saline Nature; and pretendst o have devised an apparatus by which such crystals may be artificially obtained.* He aims at overthrowing the system of Haüy; and his theory is,—that crystals are not the immediate consequence of undisturbed solution or fusion; but are produced, in the dry way and in the open air, by the decomposition of amorphous crystallizable masses, the particles of which arrange themselves during the process, according to certain laws of attraction.—His facts are these. In a mineralogical excursion upon the island of Elba he came across a block of argillaceous shistus with pyrites,—which he found, upon examination, to be covered with several capillary crystals of alum from one-half to three-fourths of an inch in length. The rock was already decomposed to the depth of one and a-half of an inch; and, conjecturing that these two phenomena might be ultimately connected with each other, M. Methuon reared a shelter over the mineral and used frequently to go and watch the progress of its alterations. Every day the crystals grew

larger, and the decomposition deeper; insomuch that at the end of two months the size of the former was doubled, and the depth of the latter proportionally increased. As these saline crystals were evidently the result of a union between the argil of the rock and the acid formed by the contact of the atmospheric air with the sulphur of the pyrites, M. Methuon was struck with an idea, that the crystallization of earthy and metallic substances might be effected by a process somewhat analogous. Experiments were accordingly instituted; and the author finally succeeded in procuring earthy and metallic crystals in precisely the manner he had anticipated. He transported from Piedmont,—where he had been on a mission,—some crystallizable and shapeless masses of albite, garnet, green idocrase, pyroxene, and amorphous pyrites; out of all which he composed a sort of artificial mountain on his chimney piece, and passed many anxious days and weeks in observing what it was likely to bring forth. At length he had the pleasure of seeing crystals of all these substances emerge from the heterogeneous mixture; small prisms of pyroxene appearing first, and afterwards in succession, the summits of crystallized albite, and the planes of garnet, of idocrase, and of peridot.

His observations were equally successful:—and in one instance, indeed, he caught nature (says the reporter) in the very act of forming crystals of quartz on a mass of silico-calcareous earth. He had previously removed from the surface every sign of pre-existing crystallization, and left it for a few weeks to its own operations. Points of rocky-crystal first appeared; then the pyramidal summits; and finally the prism itself; the mass all the while diminishing as the crystal grew more and more diaphanous. The process continued; and at the end of three and twenty months there were on the rock six beautiful crystals of quartz from two-thirds to three-fourths of an inch in length and one-third in diameter; while the silico-calcareous stone around them was excavated in a like proportion. It is just to observe, however, that the rock was not continually dry; for though M. Methuon says it was beyond the reach of waves, he acknowledges that, in tempestuous weather, its exposed surface was often bedewed by the spray. His other observations were not so ambiguous. While in Piedmont he removed some indistinct crystals from an amorphous mass of albite and garnet; and in the course of six years had the satisfaction of gathering a second and a third crop of new and beautiful crystals. He details a number of other observations and experiments which appear to be equally cogent; and then draws the general conclusions of his hypothesis,—‘that the natural process of crystallization originally begins in a partial decomposition of the

surface of the crystallizable fossil; that from certain spots of this surface, when it has first begun, the decomposition proceeds in straight and narrow lines to other similar spots (somewhat, perhaps, like the incipient congelation of water), which in their turn, send forth similar lines, sometimes parallel to the former, at other times crossing each other at right, acute, or obtuse angles; thus dividing, or, more commonly speaking, carving or engraving the surface of the fossil into several compartments, which become, by a continuance of the process of decomposition, as many distinct pieces, constituting the body of the crystal in its rough state;—and lastly, that during the process, the substances of a different nature, contained in the mineral, separate, and arrange themselves, in one or more parts of the same compartment, the fossil mass continuing to be solid and hard, but fragil and easy to be broken; the author having often broken between his fingers, some, which had before withstood the strongest percussions.’ As corollaries to the theory he insists, ‘1st,—that crystals begin to form at their summit, edges, and solid angles: 2dly,—that nature produces, by a direct process, all simple and compound crystals, without first forming a nucleus in the latter: 3dly,—that the *matter* serving to form the crystals (called by himself, *crystallizable matter*), is in the state of a solid mass before, and continues in that same state during the whole process of crystallization: and 4thly,—that crystallizable matter is that which has filled, by infiltration, the chasms and clefts of mountains and the cavities of rocks; which composes the veins, the stilactites, and the stilagmitis; and, in general, all that which constitutes accidental formations found in blocks, nodules, &c. within large masses.’ Such is the outline of M. Methuon’s system; and it must be acknowledged, we think, to be pretty well supported by the facts which he has adduced. The author is said to be a person of unquestionable veracity:—And even if he had made too favourable a report of his own experiments and observations, we have an account of similar ones in this country which, in conjunction with his would seem to establish the hypothesis upon a pretty sure foundation. In the neighbourhood of Boston there are crystallizations of feldspar in masses of sienite, which are attended by all the phenomena described by M. Methuon, and which have been considered by our own mineralogists as of more recent formation than the masses of which they constitute a part. It must be confessed, on the other hand, that some of M. Methuon’s facts are rather contradictory of his hypothesis. It appears to us pretty evident, for instance, that the successive augmentation of the crystals which he caused to be produced, is little calculated to favour the supposition that they did not originate in a

nucleus, but commenced their formation at the summit, edges, and solid angles. In all his experiments, too, he was obliged to water the beds in which his crops were growing:—And perhaps the only legitimate conclusion is, that, in all cases of crystallization, the substances need not be dissolved any farther than partially to overcome the mechanical adhesion of the particles. We offer it only by way of query.

Art. III.—*General Views of Vegetable Nature. From the French of C. F. Brisseau Mirbel, Member of the Institute of France. Paris, 1815.*

THIS paper begins with some general observations upon the laws which nature observes in the distribution of plants. All sorts of soil, situation, and temperature, have vegetables, as well as animals, peculiar to themselves; though it is true of both that a vastly greater number of species can stand a very warm climate, than are capable of enduring a very cold one. It has been computed that at Spitzberg, near the 80th degree of latitude, there are but 30 species of plants; in Lapland, 10 degrees lower, about 534; in Iceland, five degrees farther south, about 553; in Sweden, which extends to the 55th degree, about 1300; in Brandenburgh, between the 52d and 54th degrees, 2000; in Piedmont, between the 43d and 46th degrees, 2800; in Jamaica, between the 17th and 19th degrees, nearly 4000; and in Madagascar, between the 13th and 24th, more than 5000. About the same proportion holds in respect to the vigour and beauty of vegetation; the stalks, flowers, and leaves of the equatorial plants, being stronger, more brilliant, and more ample than they are on those in the more northern latitudes. Some vegetables which are only herbs in the temperate zone, become trees in the torrid; while flowers of no beauty at all in the north, are brilliant and enchanting on the equator. In these respects, however, there is a difference between the eastern and western continent; the different parts of North America presenting a far richer vegetation than those of the correspondent latitudes of France and England. Whether the difference be owing to a radical superiority of soil, we do not pretend to determine. No doubt 'there are beauties (as our author says) in a land yet wild and savage, which disappear at the approach of civilization;' and when our own country becomes as old and as highly cultivated as France and England are now, it will not perhaps be true that 'the single genus of the oak comprehends within the United States more species than Europe reckons within the whole amount of its trees.' The vegetation of the northern parts of Asia resembles that of the same latitudes in Europe; but on the other hand, there can be no greater contrast than is exhibited in the aspects which

each respectively puts on in the parallel regions of the south. As we approach the equator, the ordinary causes of vegetation augment the size and increase the beauty of European plants; while the absence of water, and the prevalence of parching winds, contribute to stint the growth of those which would otherwise flourish in the southern parts of Asia. There is nothing, we believe, in the vegetation of the various parts of Africa, where there is vegetation at all, which peculiarly distinguishes it from that of the parallel latitudes in South America; and we are assured it is true of both continents, that, towards the antarctic pole, there are no plants which produce fruit for the food of man.

Light, heat, and moisture, our readers all know, are the three great supporters of vegetation. We know not precisely how light affects any living thing; but, without it, a plant loses nearly all its distinctive qualities,—‘spindles itself out,’ as our author says,—and becomes a feeble, gracile, and tasteless excrescence of the earth. M. Mirbel pretends to account for the phenomenon; and we shall give our readers an opportunity of seeing for themselves how well he succeeds.

‘The way that light acts upon this class of the creation, is principally in separating the elementary parts of the water and carbonic acid contained in them, and in extricating the oxygen of the latter. The carbon of the acid, with the hydrogen and oxygen of the water, from the bases of the gums, resins, and oils, which flow in the vessels or fill the cells. These juices nourish the membranes, and induce the woody state in them; and they do this in proportion as the light is stronger and its action more prolonged. Thus we see that darkness and light have effects directly opposite upon vegetables. Darkness favours the length of their growth by keeping up the pliancy of their parts; light consolidates them, and stops growth by favouring nutrition. It should follow that a fine race of vegetables, one that unites in due proportion, size and strength, depends in part upon the proper reciprocation of nights and days. Now in the northernmost regions, plants go through all the stages of growth at a time when the sun no longer quits the horizon; and the light, of which they experience the unremitting effect, hardens them before they have time to lengthen. So their growth is quick, but of short duration; they are robust, but undersized.’—p. 48.

We never knew before that pure light had the power of reducing water and carbonic acid to their elements; and though the explication of our author is very ingenious, we confess it does not strike us as very conclusive. The effects of heat and moisture are much more satisfactorily pointed out; but it is absolutely impossible, we apprehend, to develop the hidden *modus* in which any of these causes operate. It has been proved by hygrometrical experiments that the moisture of the

air increases as we approach the equator: and indeed we do not want to learn from a hygrometer, that evaporation upon the earth's surface must be more copious where the heat of the sun is more intense. Plants differ from all other living things in being destitute of locomotion; and it has been observed by sir Joseph Banks that nature has abundantly prevented the evils which would otherwise have resulted from such a deficiency, by distributing over their surface a multitude of mouths or pores, which are fitted to absorb whatever moisture may come within their reach. An excess of heat, of cold, of light, or of moisture will be evidently injurious to vegetation; though perhaps no injury can result from the highest degree of either, which proceeds from the unassisted operations of natural causes; and the general conclusion is, that we can expect to find vegetation in its most perfect form only on the equator; where the strongest heat from the sun is tempered by the greatest cold from evaporation,—and where the twelve hours of light are succeeded by an equal period of darkness.

The same phenomena which attend vegetation as we approach the poles are also discernible as we ascend the great mountains of the globe. There is this difference however,—that the former succeed by almost imperceptible gradations, while the latter follow each other in such very rapid succession, that the height of 4 or 5000 yards in the hottest parts of the earth produces as distinct alterations as the distance of 2000 leagues between the equator and the poles. The causes are, in both instances the same;—a diminution of heat, an increased dryness of air, and a protracted duration of light;—to which must also be added, a decrease of depth in the volume of the atmosphere, and a scarcity of those substances abounding with carbon, which are produced by the decomposition of organic bodies. The extraction of heat by the atmosphere, from the rays of the sun, is always in proportion to the depth or shallowness of the volume through which they pass; and though the evaporation is more easily produced when the stratum of air is the shallower and the more rarefied,—yet heat enough does not get at vaporizable substances to fill the atmosphere with any great quantity of moisture. The substances containing carbon are generally wrecks of organized bodies; which the rains as well as the water of springs are constantly carrying down into the valleys. The summits of mountains are longer in the light than the bases; because they are first to wish the sun good morning and the last to bid him adieu.—The phenomena here spoken of were remarked a great while ago; and Linnaeus himself alludes to them, where he says, ‘the different

kinds of plants show by their stations the perpendicular height of the earth.'

'These remarks upon the nutrition of plants, lead us to address you shortly on the most prominent results produced by vegetation, and here we shall conclude.

'All is connected in the vast system of the globe, and order emanates from the equipoise of conflicting phenomena. Animals carry off the oxygen of the atmosphere, replacing it by carbonic acid gas; and are thus at work to adulterate the constitution of the air and render it unfit for respiration. Vegetables take up acid gas, retain the carbon, and give out oxygen; and are thus purifying the air tainted by animals, and re-establishing the necessary proportions between its elements. In Europe, while our vegetables, stripped by the severity of the season of their foliage, no longer yield the air contributing to life, the salutary gas is borne to us by trade-winds from the southernmost regions of America. Winds from all quarters of the world intermingle thus the various strata of the atmosphere, and keep its constitution uniform in all seasons and at all elevations. The substances which are produced by the dissolution of animal and vegetable matter, diluted with water, are absorbed by plants, and constitute a portion of the nourishment by which they are maintained; plants, in their turn, become the food of animals, and these again the prey of others which subsist on flesh. In spite of this perpetual state of war and destruction, nothing perishes, for all is regenerated. Nature has ordained that the two great divisions of organized beings should depend the one upon the other for support; and that both the life and death of individuals should be equally serviceable in keeping up the races of them.' p p. 58, 59.

Art. IV.—*On the Use of Clavus or the Ergot of Rye, in Medicine.* By Jacob Bigelow, M. D. of Boston, Massachusetts.

THE clavus, or ergot of grain, consists in the enlargement and elongation of the seeds,—by which they are projected from the spike or panicle to which they belong,—acquire a dark colour, an unpleasant taste, become irregular in their form, brittle in their texture, and incapable of germination. Rye is afflicted more than any other grain with this sort of disease; though it is occasionally found in wheat, oats, and barley. The attention of the physicians of New England was drawn to the investigation of the effects produced by the ergot, in consequence of its being suspected as a cause of the spotted fever; a suspicion which would never have had place in the minds of those who were aware of the fact that it existed in the country before the appearance of the spotted fever, and before it was supposed to be possessed of any medicinal properties. Various experiments were made with the clavus of rye; and the general result was that large doses of the decoction produced

head-ach, and temporary febrile symptoms,—while a dose of ten grains or half a drachm was very efficacious in abridging the time and increasing the pains of parturition. It is now used for this purpose by the practitioners of New England, and will probably be adopted before long by their brethren on the other continent.

Art. V.—*Some Remarks on the Arts of India, with Miscellaneous Observations on various subjects.* By H. Scott, M. D.

THIS is Dr Scott's second paper upon the arts of India. In the first he goes on to state, as the result of a long course of observation, that cancer, phthisis pulmonalis, scrofula and schirrhous are not known as original diseases in that country; and then suggests the question,—whether these diseases have not some connexion in their origin and in their nature?—The stone, the gout, and the acute rheumatism occur very rarely between the tropics;—but all the diseases which are seated on the liver and the spleen appear much more frequently than in the northern latitudes. The volume of the liver is increased in consequence of high temperature, little motion, and plentiful diet:—the same causes that are taken advantage of by the epicurean Germans to produce overgrown livers of geese and of ducks.—In the remainder of this article Dr. Scott details his experience respecting the use of nitro-muriatic acid in all those diseases which have heretofore been considered as incurable, except by mercury. Scrofula, syphilis, and pseudosyphilis, may all be cured, he thinks, by the internal and external application of a liquor compounded of three parts of nitric, and one of muriatic acid. He does not give any specific directions for its internal use. It is applied externally by bathing the body, (the feet and legs only, once or twice a day in this climate) with water acidulated till the taste is about as pungent as that of vinegar, or till it prick the skin a little, after being exposed to its action for twenty or thirty minutes. Like mercury it has an inflammatory effect upon the gums; though it never produces the nauseous smell or fœtid ulcerations which always accompany the old specific. After all, Dr. Scott is not absolutely certain that his nitro-muriatic acid will, in all respects, be a valuable substitute for mercury; but he cries out—*fiat experimentum*; and says he is ready to give up his opinion, provided any of the faculty will demonstrate its fallacy; ending in a scholar-like way with—*Alter erit tum Typhis*.

In the second communication we have an account of the instruments and of the operation by which the Indians contrive to remove the opake crystalline lens. They use two instruments; the first of which is a steel lancet, very nearly like our own, except that, in order to penetrate so dense a membrane

as the sclerotic coat, it becomes thicker more suddenly towards the handle;—the second is a tapering cylinder of brass which suddenly grows very small at the lesser end, and is surmounted by a three-sided pyramid with a blunt apex. The operator desires his patient to look attentively at some object; and dexterously inserts the lancet, where our own physicians insert it,—a little behind the cornea, and a little below the axis. He then introduces his cylinder; and, after slowly displacing and removing the lens below the transparent cornea, he suffers the instrument to hang by its neck, and lays his patient's head upon a pillow, with the eyes covered with wet cushions, till the spasms excited by the operation have entirely subsided. The eye is then examined; and if the lens has been effectually removed, the patient's head is bound up with the cushions as before, and for a week he is kept in darkness and fed upon boiled rice.—The use of two instruments, instead of one, is certainly a clumsy mode of operation. And the fact, that our own physicians, after the example of Celsus, employ the same tool for the whole work, is considered by Dr. Scott as one proof, among others, that the science of Greece was not borrowed, so extensively as has been commonly supposed, from that of the oriental nations. It is certainly in the doctor's favour, that there never was, so far as we can ascertain, a very frequent intercourse between India, Egypt, and Greece: and his supposition is still farther corroborated by the comparatively recent introduction of the Arabic digits into Europe. According to Matthew Paris, they were brought from Athens by one John Basingstoke, about the year 1240; while some suppose on the other hand that they were first carried into Spain by the Saracens, and afterwards got into France, about the year 1000. Upon either supposition, however, it is very extraordinary that, if so useful a help to numeration had been known to Greece in her earliest days, it should not have been adopted by the Romans in the place of their own awkward numerals, and consequently circulated through Europe before so late a period as the eleventh century. We have no room to enter into the question; but we confess the conjecture of Dr. Scott is by no means devoid of probability.

Art. VI.—*Sandwich Islands. Voyage round the World. By Archibald Campbell, a Mariner. 1816.*

WHEN captain Cook discovered the Sandwich Islands, in 1778, Tereoboo was the king of Owhyhee; Teterree, of Moratai; and Pedeoranne, of Wahoo, and those to the leeward. Tamaahmaah, the only brother of Tereoboo (called Maiha-maiha, in Cook's Voyage) has since contrived to subdue the whole group: to get himself a fleet of about sixty small vessels; and

to advance his subjects in civilization a great way beyond the progress which the natives of other islands in the Pacific have hitherto made. They take dollars, as well as muskets, and other European goods, in exchange for fresh provisions, live stock, salt and other articles of out-fit: they breed horses, cattle, and sheep,—rent farms from their chiefs, whom they pay in kind, and who, again, hold their land from the king and are bound to furnish him with subsidies; and they have been so successful in imitating the few whites who reside among them, that many are already good carpenters, coopers, blacksmiths, and taylors.—Wahoo is the present residence of Tamaahmaah. The natives are all trained to arms; though the only force kept on foot is a guard of about fifty men,—who do duty about the king's residence, and who go through with the military exercises (says our author) with a great deal more rapidity than precision. His present majesty,—‘one of those great men (says the editor of the Journal) who go before their age,’—holds out every encouragement for whites to remain in his dominions; but, at the same time, he never tempts any person to desert his ship; and suffers every sojourner to leave the island exactly when he pleases. Campbell asked him if he might have liberty to return home? ‘Yes,’ said he: ‘go if your *belly* tells you to go; and give my compliments to king George.’ He encourages his subjects to make voyages in the ships which touch at the island; and a native of Owhyhee is now acquiring an education in New Haven, Connecticut. The king's residence is built in the European style. He had two wives; and when Campbell left the island, was about to take a third. Some convicts, who escaped to his dominions from New South Wales, have introduced distillation among the natives; and the use of *ava* is now giving way to that of ardent spirits. All these facts should not be regarded by the people of this country as merely the parts of an amusing story; for though a formal surrender of the Sandwich Islands was long ago made to England, it is quite obvious that the United States are the nation which is going to be most affected by their increase in civilization and wealth.

Art. VII. *Notice respecting Travels towards the Interior of South Africa, in the years 1811–1815.* By William John Burchell, Esq.

MR. BURCHELL started from Cape Town in June, 1811; and after spending four years in fruitless attempts to make the lazy Hottentots accompany him as far as he wanted to go into the interior, he returned to Cape Town again on the 13th of April, 1815. This article is only a brief sketch of his journeyings in various directions; and, indeed, as the traveller is himself

about to publish the results of his observation, he very prudently forbore to communicate to Mr. Brande any more information than would serve to make his readers eager for the rest. Mr. Burchell says 'he had the good fortune, not enjoyed perhaps by any former traveller, to be admitted without reserve into the domestic circles of the natives;' and we may, of course, expect him to give us a more perfect delineation of their real character than could have been done by those who went before him.

'During the whole journey of nearly four years, he never, except in three instances, slept in a house. The result of his travels is an addition to the knowledge of a part of Africa not before explored, and an investigation of many parts already known, and made more at leisure than by former travellers, and under circumstances more favourable for permitting an undisguised view of their inhabitants: multiplied observations, both geographical and astronomical, from which a correct map of his track may be expected: above five hundred sketches and drawings, the subjects of which are landscapes, portraits, natural history, &c.: very large collections in natural history, comprising a hundred and twenty skins of quadrupeds, amongst which are a male and female camelopardalis; and many animals hitherto undescribed: five hundred and forty birds, of two hundred and sixty-five different species: above seventy amphibia: about two thousand five hundred insects, the number of distinct species of which is not yet ascertained: an herbarium in particularly fine preservation, amounting to above forty thousand specimens, including the duplicates; the number of species contained in which is not at present known: geological and mineralogical specimens, &c.; together with various implements and dresses belonging to the natives.' pp. 85, 6.

Art. VIII. *An Account of a New Species of Agave, from the Biblioteca Italiana. Milan. 1816.*

THIS plant is probably of South American origin; and was introduced into Italy, by the way of Lisbon. It is distinguished from the common agave by the turning or rolling back of the segments of the corolla. The trunk is about three feet high and seven inches thick:—the leaves about one yard long; the flower-stem about eight yards high; and the flowers, of which 1482 were counted, about an inch in depth. It belongs to the class and order—Hexandria Monogynia.

Art. IX. *Description of a new Machine to measure a Ship's Way by the Logline. By Mr. J. Newman.*

IT will be impossible to give our readers an adequate idea of this instrument without the accompaniment of a plate: Nor could they, indeed, even with a plate, be able to derive any practical information on the subject;—for, although Mr. Newman's talk about its being 'wound up' would lead us to sup-

pose that there is clock-work inside, he has very prudently abstained from giving us a description of any thing but the exterior. Our readers, as well as ourselves, must be contented with knowing, therefore, that the machine here described is intended to supersede the use 'of that cargo of incorrect minute-glasses at present taken out by vessels.' He talks of its 'beats being heard at a considerable distance:' and we suppose, in fine, that Mr. Newman has constructed a sort of watch on a large scale, which, as it requires no pendulum, will be as good a chronometer at sea as the common clock is upon land. He tells us, that it has received the approbation of many naval officers; and if it is, indeed, as he pretends, a strong, accurate, and very portable instrument, which can be used as well in the dark as in the day-light, we do not want the testimony of any other person or thing to convince us of its superiority to the present minute-glasses.

Art. X. *Some Account of the Alstenia Teiformis, or Tea of Bogota. Drawn up from the Journal of M. Palacio Faxar, by M. Faraday, Assistant in the Laboratory of the Royal Institution.*

THIS is an article for tea-drinkers. The tea of Bogota,—while it has all the perspirative and refreshing qualities of the Chinese plant,—is not predestined to flourish any where except in the warm climates. It was found by M. Palacio-Faxar at the height of 1700 fathoms above the level of the sea; and it is, therefore, very rationally concluded by M. Faraday that its cultivation might be successful in no warmer a country than England. One Dr. Mutis was its original discoverer.

Art. XI. *Historical Notice of the Life and Writings of D. Dolomieu. By the Count Lacepede.*

DEODAT-GUY-SILVAIN TANCREDE DE DOLOMIEU was born on the 24th of June, 1750. He was, in his infancy, made one of the Knights of Malta: but he broke the laws of that fraternity by killing an enemy in a duel, and would have suffered the punishment of death had it not been for the clemency, and the consequent pardon, of the Grand Master. He was nevertheless confined in prison, to await the ratification of the Pope; and it was not till the lapse of nine months that Clement (XIII) would consent to his enlargement. He came out a new man. Study and meditation had contributed to sweeten the bitter draught of confinement; and he had taken up the resolution of devoting the remainder of his days to some scientific or literary pursuit. He fixed upon natural history; and though at the age of twenty-two he joined a regiment of the army, to which he had been appointed at fifteen, he found time enough to continue the prosecution of his chosen study, and within two or three years published Italian translations, with notes, of Cronsted's Mine-

ralogy and of Bergman on Volcanic Substances. About the same period he became acquainted with La Rochefoucault; and published, not long afterwards (1775), his Inquiry concerning the Weight of Bodies at different distances from the centre of the Earth. Through the influence of La Rochefoucault he was elected a corresponding member of the Paris Academy of Science; a distinction so unexpected and flattering that he quit the military profession, and betook himself to mineralogical travelling. Mount Etna, Mount Vesuvius, the Appennines, and the Alps,—all came successively under his scrutinizing eye. Nor did his travels stop here. He published, in 1763, a description of the Lipari Islands; in 1784, an account of the phenomenon attending the earthquake which happened in Calabria; and in 1788, a Memoir on the Ponticen Island, together with a Catalogue Raisonne of the volcanic specimens which he had collected on Mount Etna.

M. Dolomieu took the republican side in the revolution; but he became obnoxious to no party during its earlier stages; and busied himself in the prosecution of his studies and in the publication of books. His first work was on the Origin of Basalt; the second on a Species of Calcareous Stone, which had never before been remarked, and to which, therefore, naturalists agreed to give the name of Dolomite;—the third and fourth, on Rocks and Compound Stones; and the fifth, on the Oil of Petroleum, and the Elastic Fluids extracted from Quartz. About this time he was proscribed for the ardour with which he had defended his friend, La Rochefoucault; and, though compelled to wander from one place of concealment to another, he found the means of publishing one Memoir upon the Figured Stones of Florence, and another upon the physical constitution of Egypt. Towards the third year of the Republic, however, the storm which beat so pitilessly upon him began to abate. He was included in the newly established Ecole de Mines; and printed several papers upon the component parts of volcanic mountains. About the same time the National Institute was formed. Dolomieu was one of the original members;—and, in about three years, he published no less than twenty-seven memoirs,—the principal subjects of which were leucite, peridot, anthracite, colour considered as a character of stones, the heat of lava, the nomenclature of rocks, and the definition of the limits of mineralogy, mineral chymistry, geology, and mining. He undertook also a new journey through the south of France, and the vallies of the Alps; carrying the hammer in his hand, and forcing nature, by dint of hard pounding, to disclose her secrets. He returned at the end of six months with an immense collection of specimens,—and

made a report to the Institute, 'which alone (says count Lacedepede) is sufficient to have formed the reputation of a naturalist.'

When Bonaparte undertook the conquest of Egypt, M. Dolomieu was one of the scientific and literary men, who were selected to accompany the expedition. Not long after his arrival at Alexandria, he formed the magnificent project of making a mineralogical visit,—not only to every part of Egypt,—but to the sands and deserts of Lybia. Before he could enter upon the undertaking, however, his health became so much impaired that he was obliged to embark again for his own country. The vessel sprung a leak; and they entered the harbour of Tarentum, just as she was about to go down. A counter-revolution had just taken place in Naples; and Dolomieu, together with his friend Cordier, and fifty-three of their countrymen, were seized and thrown into prison. Eighteen days afterwards the victorious legions of the republican army came into the town; and all the French prisoners were, of course, immediately enlarged. But as the troops were soon after recalled, the danger of the prisoners became greater than ever. Dolomieu finally lost all his collections and manuscripts,—was shut into a confined dungeon, lighted by one small hole which was closed every night,—and the only way which he could make his situation at all supportable, was by fanning himself continually with a few tattered fragments of clothes. Cordier carried home the news of his condition. The French government made immediate demands for his liberty; the Royal Society of London solicited his release; the Danes ordered their minister to afford him whatever pecuniary assistance he might need; and the king of Spain twice interceded in his behalf;—but he was still kept languishing in prison, and did not even know that the news of his misfortunes had been transmitted to France. It was not till the victory of Marengo that he was let out of prison. Bonaparte made peace with Naples;—and it ought to be remembered, that the first article of the treaty was a stipulation for the enlargement of Dolomieu.

During his confinement he wrote the *Mineral Species*;—a work which, (says our biographer) is 'at once a monument of his genius and of his misfortunes.' It was written on the margin of some books, with a bone sharpened against his prison walls, and dipped into a mixture of water with the black of his lamp. His object was to supply a mineralogical desideratum, by the establishment of some fixed rule for ascertaining the species of minerals; and he proposed to make the form or composition of the integral molecule the circumstance by which those species should be determined.—Soon after his

return to Paris, he delivered, at the Museum of Natural History, a course of lectures on the philosophy of mineralogy; and made the third revisitation, we believe, to what he called his beloved mountains,—the Alps. He had long designed to make journies through Germany, Denmark, Norway, and Sweden; but his life and prospects were both cut short by a disease which attacked and carried him off at Chateauneuf, while he was on his way back to Paris, from his last Alpine excursion.

Art. XII.—*Account of some Experiments made with Newman's Blowpipe,* by inflaming a highly condensed Mixture of the gaseous Constituents of Water; in a Letter to the Editor, from Edward Daniel Clarke, LL. D. Professor of Mineralogy in the University of Cambridge.*

DR. CLARKE commences this paper with one of the most elaborate attempts to be facetious, and one of the most studied sentences for the beginning of a letter that, it strikes us, we have ever seen. 'If chymists of former ages (says he) had been told that to increase the action of fire it is necessary that the combustible be water, some such author as Agricola, or Bernard Caesius, in his chapter *de aquarum miraculis*, would perhaps have maintained, that this truth was mystically typified in the rape of Proserpine, by Pluto, from the fountain of Cyane. This wonderful property in the constituents of water is however now so well known, that it may serve to illustrate some remarkable phenomena of fusion in volcanoes, whose apertures, ejecting torrents of liquid rocks, are, in fact, so many blowpipes on a large scale; whence mixed gasses, which have resulted from the decomposition of sea-water, and which have undergone the utmost compression, make their escape in a state of ignition.' Dr. Clarke has to do, however, with a volcano four inches long, by three inches wide and three high; and he comes down to the subject of his communication with about as much grace as a certain other writer, who, after describing in great language the appearance of Egypt when the Nile overflows so as to lay under water the whole country except the cities and villages, winds up a sublime paragraph with telling

* This instrument is constructed on the principle of aerial condensation. It consists of a strong plate copper box perfectly air tight, three inches in width and height, and four inches in length,—a condensing syringe to force air into the box,—and a stop-cock and jet to let it out again. The barrel of the condenser has, of course, an aperture in the side through which it communicates with the vessel or bladder containing the gas. A few strokes of the piston, says the inventor, will store the chamber of the box with sufficient air to last about twenty minutes; and the whole apparatus may be packed into a box not more than six inches in length and four in width and height.

us what is the proper season of the inundation to shoot ducks with the most advantage.

The simple fact is, that Dr. Clarke has been melting all those substances which have heretofore been considered as infusible, by igniting a stream of gas, from Newman's blowpipe, composed of two bulks of hydrogen and one of oxygen. As the same thing was long ago done in our own country by means of Mr. Hare's compound blowpipe,* we shall not detail at any length the results of our author's experiments. The combustion of the diamond will be a subject of curiosity to those who never could afford to make a trial upon so costly a mineral; and we shall therefore transcribe Dr. Clarke's words in giving an account of the circumstances which attended his fusion of an amber-coloured octahedral crystal, weighing six carats. 'At the first application of the extreme heat (says he) it became limpid and colourless; afterwards it appeared of a pale white colour; then it became quite opaque and resembled ivory, being now diminished in bulk and weight. After this one of the solid angles of the octahedron disappeared, and the surface of the diamond became covered with bubbles; next, all the solid angles were burned off, and there remained only a minute spheroidal globule, shining with a considerable degree of metallic lustre; lastly, every atom was volatilized; the whole experiment being completed in about three minutes.'

Dr. Clarke is sure of having established, by means of his new apparatus, the metallic nature of barytes, of strontian, and perhaps of silex. The barytes was reduced to a slag,—which, when filed, exhibited, in every instance, a metallic surface resembling that of silver. As the substance is very light, however, it would be obviously a misnomer to give it any name derived from *Cæus*; and our author proposes, therefore, that it shall be called *Plutonium*, because we owe it entirely to the dominion of fire,—and, according to Cicero, there was a temple of this name in Lydia, dedicated to the god of fire.† The metal of strontian is called strontium, and that of silex, silecium. As to

* The Doctor acknowledges that 'the first application of these gases to aid the operations of the blowpipe was made in 1802, by an American, Robert Hare, jun.:' but then it might be concluded a priori by Oxonian logic, that no person in the United States could ever have originally conceived the idea of uniting the two gases in the same stream; and as the invention could not be very well claimed for England herself, it must at least belong to some country which is no distant relation. 'The first usage of gases in a state of mixture from a common reservoir (it is therefore very properly said) was made by an *unknown* native of *Germany*.'

† In the next article Sir H. Davy has occasion to mention this substance; and we find he adheres to his own system of nomenclature by calling it *barium*.

the latter metal, however, Dr. Clarke has not yet entirely satisfied himself. He obtained, in *one* instance only, a metal from pure silex, 'which (he says) still retains a greater degree of metallic lustre and whiteness than the purest silver; but this last metal I have not been able yet to reproduce in a manner perfectly satisfactory.'—In the reduction of all the earths he thinks it better not to make use of a charcoal supporter; as that substance has, he is convinced, the property of vitrifying the metals which are their bases. In almost all cases he employed himself either platinum or a pipestem.

'One of the most remarkable results which I have obtained by means of this blowpipe (says the doctor, in a postscript) is that of iron, from meteoric stones; all of which are reducible without any increase or diminution of weight, to iron; admitting the action of the file, and disclosing a bright metallic surface, and being highly magnetic. This iron resembles that which whitesmiths call iron blubbers in clinker; and it has the same specific gravity; not exceeding 2. 666; the metal being nearly in a state of slag. Hence it follows that for the fall of iron from the atmosphere nothing more is requisite than that the stony concretions which form in the atmosphere should undergo a greater degree of heat, than that which has attended their deposition when they descend in the form of stones.'

Art. XIII.—*Notice of some Experiments and new Views respecting Flame. By Sir H. Davy.*

IN a Paper read before the Royal Society, Sir H. Davy has undertaken to show that in all cases flame is a continued combustion of explosive mixtures;—and in the Article of which we have just transcribed the title, he has endeavoured to account for the fact, that 'where a wire-gauze safe lamp* is made to burn in a very explosive mixture of coal gas and air, the light is feeble, and of a pale colour; whereas the flame of a current of coal-gas burnt in the atmosphere is extremely brilliant.' He is of opinion,—and he has made experiments which satisfactorily bear him out,—that the superiority in the latter flame 'is owing to the decomposition of a part of the gas towards the

* Sir Humphrey was led to this invention by discovering that the explosions of inflammable gases in mines could not be passed through long, narrow, metallic tubes; that this principle obtained after a proportional diminution of both the tubular dimensions; and that the same result was still had by increasing the number, and abridging the length of the tubes: insomuch that a great number of small apertures would not pass explosions when their depth was equal to their diameter. Hence he was led to try sieves made of wire-gauze, as well as metallic plates perforated with small holes; through neither of which could he get an explosion to pass: And he accordingly proceeded to construct a sort of wire gauze cage in which the wick of the lamp should be confined,—and yet the explosive fire damp be effectually kept out.

interior of the flame where the air is in the smallest quantity, and the deposition of solid charcoal, which, first by its ignition, and afterwards by its combustion, increases in a high degree the intensity of light.' This result will serve to account for many other phenomena attending combustion; and Sir Humphrey declares his intention of prosecuting the subject to its utmost conclusions.

Art. XIV.—*On the Effects produced in Astronomical and Trigonometrical Observations, &c. By the Descent of the Fluid which lubricates the Cornea. By David Brewster, LL. D. F. R. S. Lond. and Edin. and F. A. S. Edin.*

DR. BREWSTER was led to make the experiments, of which he gives an account in this paper, by observing that the fringes on the shadow of a small wire, or fibre of any kind, are always the more distinct as the substance approaches more to a perpendicular direction. He proved, in what we think a satisfactory manner, that the fluid which lubricates the cornea is constantly disturbed by the closing of the eyelids; and that it is either in a state of descent by its own gravity, or is drawn by capillary attraction to the horizontal reservoirs situated at the junction of the tarsi with the cornea. In its perpendicular descent it crosses and renders indistinct the horizontal lines; while it coincides with the direction of those which are vertical, and has little or no effect upon their distinctness. It is therefore of some importance that 'when the sun, moon, or any of the planets is measured by a heliometer, or a double-image telescope, the two images should be brought into contact when they are in a horizontal line, in order that the two lines, the contact of which is observed, may have a vertical position.' It is needless to point out the manifold advantages which the engraver, the ornamental painter, and the decorator of apartments, may all derive from the application of the same principle.

Art. XV. *Further Account of Mr. Samuel Clegg's Improvements of the Apparatus used in Gas Illumination.*

WE copied, in our Number for October, 1816, the article to which this is a supplement. As we shall not be able, without a plate, to give our readers an idea of the instruments here described, we must state, in a general way, that they consist of a *governor*, which is intended to regulate the emission of gas,—and of a new retort, which is intended to supply the gas at a much less expense than it cost when made in the old. In the common apparatus one chaldron of coals was eight hours in decomposing; required 20 retorts, five fires, and two men; and produced, after all, but 10,000 cubic feet of gas:—Whereas in Mr. Clegg's machinery the same quantity of coals is decomposed in 3 hours; employing but three retorts and three

fires; and producing, besides 10 per cent. of fuel or coke, no less than 18,000 cubic feet of gas. The cost in this case is 2*l.* 12*s.* 8*d.*, and the total value of the products 16*l.*—leaving a net profit of 13*l.* 10*s.*; while, in the old way, the whole expense is 3*l.* 12*s.* 8*d.*, and the value of the products 9*l.* 10*s.*—leaving but 5*l.* 16*s.* 4*d.* of clear profit. Mr. Clegg's retort is made upon the same principle as the new Scotch stills. It is a flat horizontal vessel about 12 feet in diameter, made of iron plates rivetted together. We can give our readers no idea of the interior.

Art. XVI. *Description of the River Meta.* By Palacio Faxar.

THE Meta is one of the great contributors to the Orinoco. It is from a mile to a mile and an half broad, and from four to eight fathoms deep; runs in a north easterly direction, and empties itself at the distance of fifty one miles from the Casanare. The banks are occupied by the hatos or habitations of numerous savage tribes; who are abundantly supplied with missionaries by the friars of St. Austin of Santa Fe de Bogota, and generally continue a reasonable length of time in a settled and sober way of life before they betake themselves to their old habits and their old religion. The Meta was explored by Don Joze Cortes Madariaga 'who was deputed on an *important* mission (says Mr. Faxar) by the government of Caracas to that of Santa Fe de Bogota, in the year 1811;' and who embarked on the river under consideration in order to return to Venazuela, in the most expeditious way.

Art. XVII.—*Some Account of Tyloria Splachnoides, a new Moss allied to the genus Splachnum.* By William Jackson Hooker.

THIS moss differs from the splachnum in having a lengthened operculum, and long narrow apophysis. Mr. Hooker found his specimen in Switzerland,—and it had been found in Norway by professor Schmidt, of Christiana; who thus describes it: *dentes peristomii longissimi, octo paria, torti, abrepto operculo, valde mobiles et mox inde reflexi.* Mr. Hooker found them vade mobiles even with the warmth communicated from his hands.

Art. XVIII.—*On the Original Formation of the Arabic Digits.*

WE copied this paper into our last Number, p. 167.

Art. XIX.—*A new Mode of improving or mellowing Wine. Extracted from the German of M. S. T. Von Soemmerring, in the Memoirs of the Academy of Science at Munich. June, 1814. Page 1—14. Quarto.*

WE are going to give an abstract of this article for the sole benefit of our wine-bibbing readers.—M. S. T. Von Soemmerring recommends, that, in order to give wine all the advantages of age in a very short period of time, it should be kept in glass

vessels having their orifices closed with bladder. As the only effect of age upon wine put up in the common way consists in the opportunity it affords for the evaporation of the watery particles through the wood of the cask, and for the deposition of its salts on the sides in the shape of a film or concreted crust, any new mode of treatment which will facilitate both these operations must enable us of course to produce the same mellowness of flavour in a comparatively shorter period of time. That bladder has this effect, is proved by the following experiment. Four ounces of red Rhenish wine were put into a common tumbler, secured by a well prepared bladder which had been softened by steeping, and placed beyond the reach of the sun for the space of 81 days. One half of the original quantity of liquor had now escaped:—but what had been left behind was neither mouldy nor mothery; as it would have been, if left without any cover, or with a stopper of cork: it had, both at the bottom and at the top, a stratum of crystallized cream of tartar: it was darker, yet brighter and finer than the same kind bottled in the common way: the proportion of alcohol was one half greater; and, both in taste and in smell, it was more aromatic and spirituous,—mellower, technically speaking, than it could have been made by the ordinary method of treatment. It is evident, therefore, that bladder has the property of separating particles of water from those of alcohol; and so great, indeed, is the rapidity with which separation takes place, that, according to the result of the abovementioned experiment, it would require but one year to mellow wine in the new way, where it must take twelve in the old.

Art. XX.—Analytical Review of the scientific Journals published on the Continent, during the preceding Three Months.

THE first work noticed under this head is the *Journal de Physique*, par Delametherie. Art. 1. (of the Number for May) Experiments, by Vogel, on the mutual decomposition of acids and sulphuretted hydrogen gas. Whenever this gas is passed through any of the strong acids in a concentrated state, or is brought into contact with them by any means, they assume a milky appearance, and sulphur is precipitated in the form of an opaque yellowish red paste. Perhaps the only effect is to raise the temperature of the gas; which, as all chymists know, is decomposed when that is pretty high.—Art. 2. On the influence which the abortion of the stamina seems to have on the perianth; of which the Reviewer says no more than to promise to say something in future.—Art. 3. Memoir by L. Cordier, upon the mountain of mineral salt near Cardonne in Spain. The town of Cardonne is situated in the interior of Catalonia, and is elevated 1404 feet above the level of the Mediterranean.

The salt mountain is about as large as Montmartre near Paris; and it every year produces a revenue to the government of about a million of francs. It consists 1, of pure muriate of soda in small masses, with large grains, semi-transparent and colourless; 2, idem with muriate grains, and of various colours; 3, of impure muriate of soda mixed with clay and small crystals of common selenite; 4. of pure muriate of soda in concrete tubercular masses, with a granulated fracture, fully transparent, and commonly snow-white; 5, of gray and white clay; 6, of common gypsum; 7, idem, mixed with anhydrous selenite.—Art. 4. Memoir (by Dessaignes) relative to the influence of temperature, of mechanic pressure, and of the humid principle, upon the generation, as well as upon the positive and negative nature of electricity. The object of this paper is to prove,—that ‘there are not two distinct electric fluids, as has been supposed; but that a fluid, eminently expansive, pervades and penetrates all bodies, to which it is united by a peculiar attractive force, forming around them a kind of electric atmosphere;’ and that all the phenomena which are commonly exhibited by electricity, are nothing more than the effects of mechanical pressure, or of a change in temperature, and in humidity. The reviewer declines all detail; and we must follow him of course.—Art. 5. A Memoir by M. Flangergues; in which the author endeavours to prove that the unequal expression of the degrees of heat by the equal divisions of a thermometer, is occasioned by the mode in which bodies are dilated by caloric, and is not, as has been supposed, the effect of any peculiar quality in the fire employed.—Art. 6. A letter to the editor by M. de Heliz, giving an account of an alteration in the common plate electrical machine.—Art. 7. Observations, by H. Cassini, upon the cardamine pratensis; in which the author asserts, in opposition to one Mr. Richard, that the leaves of plants are susceptible of germination. He has himself seen the fact in the case of the plant here mentioned.

Art. 1. of the number for June, is a third part of the above-mentioned memoir on electricity.—Art. 2. Observations, &c. by De Basbancois, to prove that all animals owe their origin to the successive development of a *first* organic being; or that, in other words, the animal system begins with the microscopic *wigglers* in vinegar and stale water, and ends in the African orang-outang.—Art. 3. A letter from M. Delezennes, intending to give a reason why the electric fluid circulates slowly with the dry voltaic pile, and rapidly with the humid one.—Art. 4. Meteorological observations made at the observatory of Paris, for May, 1816.—Art. 5. A report made to the Institute, by Barbie de Bocage, respecting a memoir of general An-

dreossy upon the irruption of the waters of the Euxine into those of the Mediterranean sea. This paper gives an account of the method by which Constantinople is supplied with water, as well as of several interesting objects of antiquity and the fine arts.—Art. 6. On the primitive matter of lavas. M. De Luc, the author of this paper, combats the common doctrines upon the subject of lava; and pretends that, as all lavas are confessedly nothing more than mixtures of water, salt, sal ammoniac, iron, sulphur, silica, alumina, &c. there is no foundation for their being classified amongst the rocks.—Art. 7. A favourable review (or report as the French call it) made to the Institute, on a sketch of military and naval architecture, during the eighteenth and nineteenth centuries. By M. Dupin.

Annales de Chimie et de Physique, for May, 1816. By Mess. Gay Lussac and Arago. Art. 1. Sequel to a natural classification for simple bodies. The reviewer gives no account of this paper; and ‘only wishes that the author could be prevailed upon to give up his intention of coining new and hard names for the combination of simples.’—Art. 2. Extract from a Memoir read before the Institute, by M. Beaudant; in which the author alleges, as the result of actual trial, that fresh water moluscae can gradually accommodate themselves to the salt, and vice versa the salt to the fish.—Art. 3. Experiments on the chymical nature of chyle, &c. extracted from an English publication.—Arts. 4 and 5. A review, by Barthollet, of a work entitled *Traite de Physique Experimentale et Mathematique*. We are to have a review of this work in the *Quarterly Journal* itself.—Art. 6. Upon dry galvanic piles. The author claims the invention for his own countrymen Messrs. Hachette and Desormes; while the reviewer ridicules such a pretension of course; and sticks to De Luc and Zamboni, as the real inventors of the arrangement. We have nothing to say.—Art. 7. Upon the decomposition of sulphuric acid.—Art. 8. Upon the precipitation of the oxid of gold by potash.—Art. 10. Meteorological table.

Art. 1. (of the number for June.) See Art. 1. for that of May.—Art. 2. By the editor, contains an account of experiments upon the expansion of fluids. M. Gay Lussac ascertained the remarkable fact, that alcohol and sulphuretted carbon yield the same volume of vapour, and possess equal expansibility.—Art. 3. is taken from the *Annals of Philosophy*.—Art. 4. A Memoir read before the Institute, by M. Dulong; in which he attempts to prove that from a union of phosphorus with oxygen, there result, according to the different ratios of combination, four distinct acids,—the hypo-phosphorus, the phosphorus, the phosphoric, and the—he does not say what.—

Art. 5. Another paper on the same subject, by the Swedish chymist, Berzelius; of which the reviewer promises to give a separate analysis in a future number of the *Journal*.—Art. 6. Experiments, by MM. Bucholz and Meissner, to prove, in opposition to Stromeyer, that the crystallographical anomalies of arragonite are not attributable to a chymical combination of that mineral with strontian. Of twelve specimens which these gentlemen analyzed, some did and some did not contain strontian: yet all, without exception, presented the same mineralogical characters.—Art. 7. relates to a quarrel between M. Gay Lussac and Dr. Thomson about the discovery, that two distinct nitrous acids result from the combination, in different ratios, of azote with oxygene.—Art. 8. is part of a memoir by M. Leopold de Buch; in which the author attempts to describe the limits of the perpetual snow in the north.—Art. 9. See art. 7. of the number for May.—Art. 10. Extracted from the *Bibliothèque Universelle*, upon the variations of carbonic acid in the atmosphere, during winter and summer.—Art. 11. Mess. Robiquet and Colin attempt to prove, in opposition to Berthollet and Thenard, that the olefiant gas is a distinct substance from hydrochloric æther.—Art. 12. An attack upon the *Annales de Chimie*.—Art. 13. M. Planche, a Parisian apothecary, claims to have discovered, before M. Gay Lussac, (art. 8, for May) that, when sulphuric æther is left undisturbed a considerable length of time, ‘acetic acid, perhaps some alcohol, and a particular oil, are formed from its decomposition.’

Journal de Pharmacie et des Sciences accessoires. Par Mess. Cadet-Planche, Boudet, Pelletier, Virey, &c. June, 1816. —Art. 1. Observations, by M. Figuier, to prove, in opposition to MM. Vauquelin, Duportal, and Pelletier, ‘1st, that a solution of muriate of gold with an excess of acid gives, with potash, a quantity of the oxide nearly equal to that obtained from a neutral solution; 2dly, that the triple salts of gold can be decomposed by an excess of their bases; 3dly, that these same salts can be decomposed by an excess of different bases; and lastly, that, of all the alkaline bodies, lime in equal weight, decomposes the greatest quantity of neutral muriate of gold.’—Art. 2. On the formation of sugar, by M. Kirchhoff. Some years ago the author discovered that fecula might be changed into sugar by sulphuric acid; and he here announces the additional discovery, that the same change is affected by means of gluten; a fact which, if true, will be of great importance with regard to the general theory of fermentation.—Art. 3. On the refining of sugar by the powdered bark of the *theobroma guazuma*.—Art. 4. Upon some new preparations of ipecacuanha, quinquina and rhubarb.—‘The three next articles (says the re-

viewer) are not worth quoting.'—Art. 8. On the discovery of vaccination. We must extract this *morceau entire*.

'The French are a queer people. We have discovered, and propagated the cow-pock for more than twenty years, and as long as it was a matter of problem, whether it would or would not succeed, the French continued to ridicule the idea, and strongly opposed the truth advanced by Jenner and his friends. But all doubts are now removed; the cause of humanity triumphs; mankind has received at the hands of an Englishman, one of the greatest blessings that could be bestowed upon them, and our nation seems to derive additional lustre from it; a Frenchman now starts up and tells us that the discovery belongs to France, and that we became possessed of it by a certain talent, inherent in us, of appropriating to ourselves every thing, that has been done by others, without saying "thank you;" hence, by means of this talent, we have robbed Mons. *Pascal* of the hydraulic press; M. *Dalenne* of the steam engine; M. *Lebon* of his thermolamp; M. *Montalbert* of his sea-carronades; M. *Morveau* of his fumigations; Mons. *Curaudau* of his theory of chlorine, and even poor *Moliere* of two of his comedies. The story of the Vaccine is very pleasant; and considering, that it comes immediately from M. *Chapital*, who communicated it to the *Société d'Encouragement*, we know not whether to laugh or to be angry. It appears then, that a M. *Irland* of Bristol fell sick, and took it into his head to travel thence to Montpellier. M. *Irland* took with him a M. *Pew*, a surgeon. M. *Pew* met and spoke to a M. *Rabaud*, protestant minister of Montpellier; M. *Rabaud* mentioned to M. *Pew* that there was a disease of the cows at Montpellier, called the *picotte*, and asked whether it might not be used as an antivariolous remedy. This *picotte* remained in M. *Pew's* head till his return to England; there he saw Dr. *Jenner*, to whom he imparted the *picotte*. *Jenner* soon found the *picotte* in Gloucestershire, and imparted it to little children who had not had the small-pox; and hence the discovery of the vaccine, the honour of which does not belong to England, but to Montpellier, and by *ricochet* to M. *Rabaud*. This is really too bad!' Let them fight.

Art. 9 will be noticed in another place.—Art. 10 is a continuation of the review of Biot's *Traite de Physique*.—Art. 11 is an Essay, by M. *Decandolle*; who attempts to establish—what was long ago attempted to be established—an analogy between the external forms and the internal qualities of plants.—Art. 12 a note by M. *Planche*, in which he says he has discovered a book written in 1679, by a Dr. *Pielat*, a Dutchman, giving an account of the process for obtaining artificial sal ammoniac from bones. Geoffroy, the reputed discoverer, did not publish till 1719.—Art. 13 is upon hospitals.

Art. 1 (of the July No.) Some inconclusive experiments, by Mr. *Laubert*, upon the bark of *cinchona condaminea*.—Art. 2

is an extract from a thesis upon mercury, by M. Guibout; and will be further noticed when the article shall have been finished.—Art. 3. A memoir giving an enumeration of no less than one hundred and fifty plants whose porphylactic and therapeutic virtues are known and employed by the aborigines of Guiana.—Art. 4. Geoponical researches, by Cadet de Gassicourt; of which the reviewer thinks of saying something hereafter.—Art. 5. A letter from Dr. Rein to M. Gilbert; in which we have an account of the *alcornok*, an unknown tree used by the Indians for the cure of certain diseases.—Art. 6. News in science.—Art. 7. Notice to subscribers.

Bulletin de la Societe Philomathique de Paris, for July, 1816.—Art. 1. A continuation of the quarrel between M. Gay Lussac and Dr. Thomson about the combinations of azote with oxygen.—Art. 2. New proofs (by M. Biot) of the unequal quickness with which a voltaic pile recharges itself when it has once been discharged. The reviewer mentions, as the result of his own experience, that after the first ignition of a platina wire by a voltaic battery, he never could obtain a repetition of it with the same battery, though the trials succeeded each other rapidly.—Art. 3. From an English journal.—Arts. 4, 5, 6, 7, and 8 contain nothing worth notice.—Art. 9. A sketch, by M. de Blainville, of a new arrangement in zoology.

Art. 1. (of the August No.) is a continuation of de Blainville's sketch.—Art. 2 is by M. Biot; in which he gives an account of some experiments to prove, that substances similarly constituted—such as the common sugar, and the beet-root sugar—exert a similar action on polarised light.—Art. 3. By M. H. Cassini; who endeavours to show, that the *tarchonanthus camphoratus* belongs to the family *synantheræ*.—Art. 4 is referred to the proceedings of the Institute.—Art. 5. See above, Art. 6. *Ans. de Chem.*—Art. 6. M. Cauchy demonstrates the theorem,—that 'if after having arranged in their progressive order the irreducible fractions, the denominator of which does not exceed a whole given number, we take at pleasure from amongst a series just formed, two consecutive fractions, their denominator will be first between them, and their difference will be a new fraction whose numerator is unity.'—Art. 7. J. Pelletier has obtained from the gum of the olive-tree a distinct substance, which he calls *olivine*.

The reviewer proposes to notice in the next number the journals, published in Switzerland,—and then passes on to an analysis of those that are published in Italy.—*Biblioteca Italiana; or a Journal of Science and the Arts.* By a society of literati. First year; January, February, and March, 1816. Milan. This work is under the immediate protection of go-

vernment; and is intended to be a general repository of Italian science and literature. Giuseppe Acerbi is its editor; and Vincenzo Monti, Scipione Breislak, and Pietro Giordani his three assistants. 'Every sovereign sees at last (it is said in the prospectus) how important and necessary it is, for their own glory and the public welfare, that errors should every where be extirpated, sound doctrines taught, and the knowledge of truth strenuously and generally promoted.' The reviewer promises to give a more particular account of it in a subsequent number.

Proceedings of the Academy of Sciences of the Royal Institute of France, from the 5th of August to the 16th of September, 1816.

THE only thing worthy of mention in the first sitting is a memoir, read by M. Cuvier, upon a new species of serpents found in Martinique and St. Lucie. From the conformation of the head it has been called, by Oppel, *trigonocephalus*; and from a particularity in that of the tongue the natives have given it the name of *vipere fer de lance*. It belongs to Laccpede's first genus: is very prolific—very venemous—and always upon the offensive. 'The most extraordinary circumstance connected with this animal (we use the words of the journalist, and wish we had room for the whole article) is the power it possesses of climbing large trees, to coil itself up in a rising spiral of four circles, and then to leap to a considerable distance, plunging suddenly on its victim. At other times it erects itself perpendicularly on its tail, reaching the height of six feet or more, and in this position will stand a long while, agitating fiercely its triangular head and darting its sharp tongue in various directions.' Fortunately, however, nature has placed by the side of this tremendous reptile, another animal, of the genus *Boha*, which is perfectly innocuous to man,—but terribly hostile to the *vipere fer de lance*.—Nothing of much importance was transacted during the sessions of the 12th, 19th, and 26th of August.

'September 2nd, 1816. Mons. Girard read a report on the agrarian measures of the Egyptians, and the relation they bear to the modern decimal system of mensuration. The duodecimal division was introduced into Egypt by the Greeks; and before that epoch, their agrarian measure was a *canne* or measure of seven cubits, each subdivided into seven palms. The *cubit* was subdivided into seven palms from the manner of marking the cubits on the cane. The person charged to divide the latter, placed his elbow on a table or other support, the forearm being extended and vertical. The cane was applied to it, and at the point where it corresponded to the tip of the middle finger, it was grasped with the right hand, and brought down to the elbow again, which was then ap-

plied to the lateral and superior part of the grasping hand, in order to measure the second cubit, and so on in progression. Thus the cubit being naturally six palms, had seven on the Egyptian measure from their mode of marking it.'

After some unimportant papers by other persons, M. Biot read a memoir on a new instrument of his own invention, by which we may be enabled to trace exactly and distinctly all the primitive and compound colours; so as to ascertain the precise intensity of a given colour by comparing it with a similar one produced by the instrument. It is called *colorigrade*; and it may, by a simple modification, be turned into a *cyonometer*.—September 9th. A model of an apparatus intended to effect the passage of boats through locks without the assistance of water. It is called *hydrobascule*; and consists of a sort of lever, connected with two parallel wheels. We find nothing else worthy of mention.

Art. XXI.—*Discourse of the honourable T. S. Raffles. Account of the Sunda Islands and Japan.*

THIS is a very interesting paper; but we are afraid we shall not find room for all it contains.—Perhaps there is no little spot on the face of the whole globe, which contains more curiosities than the single island of Java. Not only is she superior to all the neighbouring islands in the variety of her natural productions; but she exhibits, more perhaps than any other oriental country, the traces of high antiquity—of foreign commerce—and of national greatness. Captain Baker, who has been actively engaged in investigating her antiquities, speaks in the following terms of the Chandi Sewo, or Thousand Temples, which lie in ruins in one part of the island.—'Never (says he) have I met with such stupendous, laborious, and finished specimens of human labour, and of the polished, refined taste of ages long since forgot, and crowded together in so small a compass.' Of the ancient civilization of Java, indeed, there is abundance of unequivocal proof;—none more so, however, than the perfection which its language has preserved even to the present day. Its superiority in all other respects to the neighbouring islands may unquestionably be, in a great measure, attributed to the superior fertility of its soil. Sumatra and Banca have evident marks of being a mere continuation of the Asiatic mountains: whereas Java is quite as evidently the creature of a volcano. It differs from the others,—not only in its geological structure,—but in its longitudinal direction: that of Sumatra being from north-west to south-east,—while that of Java is directly east and west.

Japan is another interesting country. The inhabitants are generally confounded with those of China; though, according to

Dr. Ainslie, who resided on the island four months, no supposition is more unfounded; and nothing, indeed, is so offensive to the Japanese themselves as to be compared, in any way, with their neighbours on the continent. The Chinese are inert and stationary; while the slightest impulse seems sufficient to set the people of Japan in motion. The latter are said to have a strong inclination for foreign intercourse—notwithstanding the restrictive system which they have adopted; and it is adduced, too, as proof of their energy and decision, that a people who had once been adventurous navigators and had communicated with all Polynesia, should now be able to exclude the whole world from their harbours and wrap themselves up in their own habits and institutions.

Art. XXII.—*A Geological Account of the Lead Mine of Dufton, in Westmoreland.* By T. Allan, &c. &c. In a Letter to the Editor.

Art. XXIII.—*On the Mode of Ventilating and Warming the Infirmary at Derby.* In a Letter to the Editor.

THE building here spoken of is a cubical edifice, three stories in height; the patients being exclusively confined to the highest. Their apartments are warmed and ventilated at the same time, by a current of air which is admitted through a subterraneous passage, and thrown into a chamber containing a sort of stove; whence it is conveyed by proper funnels to the various parts of the attic story.

Art. XXIV.—*Proceedings of the Royal Society of London.*

THE only thing worth mentioning under this head is a discovery by sir Everard Home,—that the colchicum autumnale produces the same effects upon the system, whether it be injected into the veins or conveyed into the stomach.

Art. XXV.—*Proceedings of the Royal Society of Edinburgh.*

REV. DR. FLEMING of Flisk gave an account of some experiments he had made to prove,—that when the wave of the tide obstructs the motion of a river, so as to make it either stationary, or retrograde, the effect is produced by the salt water presenting to the fresh an inclined plane, the apex of which separates the latter from the channel, and holds it buoyant on the surface.—A few specimens of words, manufactured in relief, for James Mitchell, the blind and deaf young man, were exhibited to the society by Dr. Henry Dewar. And this is about all the society either saw or did which seems to be worth our notice.

Art. XXVI.—*Miscellaneous Intelligence.*—Extract of a Letter from John Davy, M. D. F. R. S. to Sir H. Davy, dated at Cape Town.

DR. DAVY made many experiments upon sea water during his

voyage to Cape-Town;—and the general result was, as might have been anticipated, that at considerable distance from the land, the ocean, and consequently the atmosphere upon it, are not liable to very great changes of temperation from the alternation of day and night. Indeed, throughout the whole watery world the temperature must always be more equable than it is on land; a fact which, in conjunction with the purity of the air—its freedom from dust or insects:—and the gentle exercise of sailing, is sufficient to account for the salutary effects of sea-voyaging.—The doctor ascertained, also, that the temperature of fish—particularly that of the porpoise—is not greatly inferior to that of land animals.

Art. XXVII.—Meteorological Diary:—followed by a List of Foreign Publications, from July to the end of September 1816; comprising *eight* in Natural history—*five* in Botany—*eleven* in Chemistry—*five* in Mineralogy and Geology—*eight* in Agriculture and Rural Economy—*three* in Geography—*twenty-seven* in Medicine, Surgery, Anatomy, and Physiology—*thirteen* in Mechanic Philosophy and Mathematics—together with *four* Voyages and Travels.

ART. II.—*Biographical Sketch of the late Captain Johnston Blakeley; of whom we gave a portrait in our Number for May, 1816.*

JOHNSTON BLAKELEY was born near the village of Seaford, in the county of Down, Ireland, in the month of October, 1781. Two years afterwards his father, Mr. John Blakeley, emigrated to this country; and after residing at Philadelphia a few months, left it for Charleston, South Carolina, with a view of engaging in business. Meeting, however, with but little encouragement at Charleston, he finally removed to Wilmington, North Carolina, allured by more favourable prospects. Soon after his establishment at this place, Mr. Blakeley was deprived, one by one, of his wife, and all his children, except his son Johnston.

Ascribing these successive losses to the insalubrity of the climate, which is said to be peculiarly unfavourable to children, Mr. Blakeley was induced to send his only surviving son to New York; as well with a view to the preservation of his health, as to afford him an opportunity of acquiring an education. Johnston was, accordingly, in the year 1790, sent to that place, and committed to the care of Mr. Hooper, a respectable merchant of that place, and an old friend of his father. Here he remained five years, assiduously pursuing his studies; at the end of which he returned to Wilmington,—where he remained for some time without any particular pursuit or occupation.

It was the intention of his father to bring him up to the law, and with a view to qualify him for that profession, he was placed, in 1796, at the university of North Carolina,—a most respectable institution, situated at Chapel Hill, in the county of Orange. While pursuing his studies here, he was deprived of his father, who died the year after young Blakeley entered the university; leaving behind him the character of a good man, equally exemplary as a parent and a citizen. Young Blakeley was now without a relative in this country, to whom he could look up for advice, or protection, or assistance; and it became necessary for him to choose a guardian. In this choice he was singularly fortunate, in the selection of Mr. Jones, an eminent lawyer, of Wilmington, who most tenderly and generously supplied the place of a father. With occasional intermissions, he remained at college till some time in the year 1799; when, by some misfortune, of which we have never been able to obtain any distinct account, and which, therefore, we will not attempt to detail, he was deprived of the support derived from his father, and compelled to relinquish his studies at the university, as well as his intention of practising the law.

Having long had a predilection for a naval life,—which, however, he had, with a self-denial worthy of imitation, concealed from his father,—he solicited, and through the friendly exertions of Mr. Jones, obtained a midshipman's warrant, in the year 1800. It is but just to state, however, that previous to making this application, Mr. Jones, desirous that his young ward should fulfil the wishes of his deceased parent, kindly offered to take him to his house, and to afford him every facility in his power, to complete his legal studies. Unwilling to accumulate obligations he might never repay, and perhaps, too, stimulated by a clear perception of the line of life nature had marked out for him, he declined this generous offer. In every subsequent situation, he retained and demonstrated the most grateful recollection of Mr. Jones's friendship, and to the end of his life acknowledged him his benefactor.

'As any thing'—writes the gentleman who furnished us the materials for this Biography, and whose language we have almost every where followed—'which illustrates the character of so much departed worth, especially where the qualities of the heart are so well calculated to excite our admiration, cannot but be interesting, I have furnished a few extracts from the letters of captain Blakeley, written to me at various periods. Having been deprived of his father at an age when the desire of knowing something of his family was beginning to be felt, it was not in his power to gratify his inquiries on that subject,

in a satisfactory manner, until May, 1811, when I had the pleasure of opening a correspondence with him.'

'In his first letter, dated on board the United States' brig Enterprise, May 9th, 1811, he manifested his anxiety to obtain the wished for information, relative to his connexions, in the following manner. 'It would afford me great gratification to hear from you all the information you possess respecting my relations. This trouble your goodness will excuse, when I inform you that for fourteen years I have not beheld one being to whom I was bound by any tie of consanguinity.'—In another letter, written soon after, he observes, 'The affection manifested by ——— is truly grateful to my heart. Indeed, I begin already to feel for her a filial regard, and the more so, as it was my lot to lose my mother before I was sensible of a mother's tenderness.'—'In reply to a letter, in which the solicitude for his professional reputation was cordially expressed by the female above alluded to, he remarks—'Should I be fortunate enough to acquire any fame, my good old friend will make me debtor for more than half. With her prayers for my success can I doubt it? I hope the last Blakeley who exists will lay down his life ere he tarnish the reputation of those who have gone before him. My father's memory is very dear to me, and I trust his son will never cast a reproach on it.'—In another, he observes, 'It is true that in the war in which we are engaged, we have to contend under great disadvantages; but this should stimulate to greater exertions, and we have already seen that our enemy is not invincible.' In a letter, dated on board the Enterprise, the 29th of April, 1813, he observes, 'Independent of personal feeling, I rejoice at the good fortune of the navy, believing it to be that description of force best adapted to the defence of this country. I confess the success of our sailors has been much greater than I had any reason to expect, taking into view the many difficulties they had to encounter. The charm which once seemed to have encircled the British navy, and rendered its very name formidable, appears to be fast dispelling.'

'In a letter, dated Newburyport, 28th January, 1814, he remarks: 'I shall ever view as one of the most unfortunate events of my life having quitted the Enterprise at the moment I did. Had I remained in her a fortnight longer, my name might have been classed with those who stand so high. I cannot but consider it a mortifying circumstance that I left her, but a few days before she fell in with the only enemy on this station with which she could have creditably contended. I confess I felt heartily glad when I received my order to take command of the Wasp, conceiving that there was no hope of doing any thing in the Enterprise. But when I heard of the contest

of the latter ship, and witnessed the great delay in the equipment of the former, I had no cause to congratulate myself.—The Peacock has ere this spread her plumage to the winds, and the Frolick will soon take her revels on the ocean, but the Wasp will, I fear, remain for some time a dull, harmless drone in the waters of her own country. Why this is, I am not permitted to inquire.’’

These extracts will strike the reader as being strongly indicative of an amiable and heroic character. There is something touching in his gratitude to the good old lady who had manifested an interest in his successes. There is something noble in his reference to the memory of his father, as a motive stimulating him in the path of honour; and there is something heroic, we think, in the unaffected manner in which he expresses his regret at having left the *Enterprise*. It is not necessary to remind the reader that it was in the action between that vessel and the *Boxer* that Burroughs conquered, and lost his life. Yet Blakeley regretted he had not been in his place, either because he considered the sacrifice of life as a cheap price for the purchase of glory, or had forgot, in his love of fame, that such a price had been paid. But he was determined before long to acquire at least equal reputation, and to perish equally with the regrets of his country.

After various services, which it is unnecessary to particularize, as they afforded no opportunity to acquire distinction, Blakeley was made a master commandant, in 1813, and soon after appointed to the *Wasp*. In this vessel he fell in with, in latitude 48° 36', north, his Britannic majesty's ship *Reindeer*, mounting sixteen twenty-four-pound carronades, two long nine-pounders, and a shifting twelve-pound carronade; and having a complement of one hundred and eighteen men. An action commenced; and, in nineteen minutes, ended in the capture of the *Reindeer*. The loss of the Americans was twenty-one killed and wounded; that of the enemy sixty-seven. The *Reindeer* was cut to pieces, in such a manner as to render it impossible to save her; and she was accordingly set on fire. After this the *Wasp* put into L'Orient; from which port she sailed the 27th of August, and four days afterwards falling in with ten sail of merchantmen, under convoy of a ship of the line, she succeeded in cutting off one of the vessels.

The evening of the 1st of September, 1814, she fell in with four sail, two on each bow,—but at considerable distances from each other. The first was the British brig of war *Avon*, which struck after a severe action; but captain Blakeley could not take possession, as another enemy was now approaching. This enemy, it seems, however, was called off to the assistance of

the *Avon*, which was now sinking. The enemy reported that they had sunk the *Wasp* by the first broadside; but she was afterwards spoken by a vessel off the Western Isles. After this we hear of her no more; and though her fate is certain, the circumstances attending it are beyond the reach of discovery. The most general impression is, that she was lost by one of those casualties incident to the great deep, which have destroyed so many gallant vessels, in a manner no one knows how; for there are so many uncertainties connected with the unfathomable deep, that even imagination is bewildered in tracing the fate of those who are only known to have perished, because they are never more heard of or seen. Another impression is, that the *Wasp*, very shortly after being spoken off the Western Isles, had a severe engagement with a British frigate, which put into Lisbon in a shattered condition; and reported having had an action, in the night, with a vessel, which was not seen next morning, although the whole night had been calm.

But whatever may have been the fate of Blakeley, this much is certain,—that he will, to use his own expression, ‘be classed among those names that stand so high.’ The lustre of his exploits, not less than the interest excited by those who remember how, in his very boyhood, he was left, as he says, without a single being around him with whom he could claim kindred blood,—how, by his merit, he obtained friends, and conferred honour on that country which was not only his parent, but which has become the parent of his only child,—and how, last of all, he perished God only knows how or where,—has all given to his character, his history, his achievements, and his fate, a romantic interest, marking the name of Blakeley for lasting and affectionate remembrance.

In his person captain Blakeley was rather below the middle stature; his eyes black, expressive, intelligent, and animated; his manners, mild, manly, and unassuming; and his person handsome. Notwithstanding his professional duties, which were scarcely interrupted from the time of his obtaining a warrant, his literary and scientific acquirements were very respectable; and among his brother officers he was always considered as a man of uncommon intellect, as well as of great courage and professional skill. He was married, in December, 1813, to Miss Jane Hoope, the daughter of his father’s old friend, Mr. Hoope, of New York; and has left an only daughter, who has lately received one of the most noble and substantial and affecting tributes of national gratitude which has occurred in the history of this country. The legislature of North Carolina, on the 27th of December, 1816, after prescribing the des-

tion of the sword they had voted to captain Blakeley, 'Resolved unanimously, That captain Blakeley's child be educated at the expense of this state; and that Mrs. Blakeley be requested to draw on the treasurer of this state, from time to time, for such sums of money as shall be required for the education of the said child.'

This, we repeat it, is substantial gratitude. It is classical, too,—and reminds us of those noble eras in the history of some of the illustrious states of Greece, when the offspring of those who had fallen for their country, became the children of that country whose cause had made them fatherless. It is in this way that our states may acquire a sort of parental character, that will endear them still more to the hearts of the citizens; that will inspire fathers to die in defence of their country, and mothers to educate their children to follow the example. It is in this way, too, that the different members of the union may nobly indulge their local feelings, and display their honest home-bred affections. Let them exemplify their desire to appropriate to themselves the fame of their distinguished citizens, by their peculiar care in honouring their memory, and cherishing their helpless orphans. It is thus that our sister states ought ever to display their rivalry;—by being as zealous to reward, as they are to appropriate the achievements of their sons.

ART. III.—*Histoire de l'Origine, &c.* History of the Rise, Progress, and Extinction, of the different Factions which agitated France from the 14th of July, 1789, till the Abdication of Napoleon. In three Volumes. By Joseph Lavallee. Price 1*l.* 7*s.* Murray. 1816.—From the Eclectic Review.

IF the French are not first rate historians, they are at least excellent narrators. They seize with admirable dexterity, and touch with inimitable skill, those marking points which comprise the main interest of the story; but they neglect those minor and connecting details which give it its colour and character. They write as they declaim, with spirit and rapidity; but their vehemence and superfluous energy are injurious to that calmness and steadiness of mind, that keenness of penetration, and that power of combination, which distinguish the historian from the narrator. The Frenchman, in all that he writes, as in all that he does, aims at effect; and this cannot, in narration at least, be always obtained, without the sacrifice of truth; not that he designedly falsifies, but the vivacity of his imagination, the rapid and fluctuating movements of his mind, and the readiness and felicity of his expression, seduce him, and he wanders. There is a great deal of all this in the work before us. It is ex-

ceedingly superficial, but uncommonly interesting. It has much brilliant colouring, and much spirited grouping, together with, here and there, facts both novel and important; but it is utterly deficient in that soundness of intellectual and moral principle, in those just, comprehensive, and penetrating views, which, in their combination, men have for want of a better epithet, agreed to call the Philosophy of History. In most of the publications we have seen, relating to the revolution, the writers continually betray the partisan; and in compliance with the rules established in such cases, on one side they lavish a redundant portion of laudatory adjectives, while on the other they heap an average quantity of vituperative substantives. Their own friends are *vertueux, incorruptible, intrepide, sublime*; while their opponents are *traitres, poltrons, energumenes, or scelerats*. M. Lavallee is not quite exempt from this; on the whole, however, he is as free from partiality as can reasonably be expected from one who was an interested spectator, and occasionally an interlocutor in the scenes which he describes. We by no means acquiesce in all M. L's discriminations of character; we think some of them defective, and others directly at variance with undeniable facts; but there is an air of conviction and sincerity in his very errors, which, while we differ from his sentiments, leaves our confidence in his honesty unabated.

In his preface M. Lavallee justly complains of the erroneous notions entertained in England, respecting the revolution; and he very fairly assigns the reasons. After adverting to the enthusiasm with which the first circumstances of that great event were hailed in this country, he attributes the aversion which subsequently arose, to the war, to the misconceptions and misrepresentations of the emigrants, and to the venal and factious character of the French journals. In truth, for want of authentic materials, it has been impossible hitherto to form a fair and impartial estimate of the general character of the French revolution. Respecting the more overt acts of the various transactions, we have evidence more than is requisite; but of their secret—that is, of their real history, we know little or nothing. As in all great events and sudden changes, much no doubt was the result of what is called accident, but much more was the effect of intrigue; and of this, who, excepting the parties immediately concerned, shall give us the history; and even when given, who shall insure its correctness? Be this however as it may, every new summary of these events, furnishes us with additional facts, and brings out something at least of those deeper machinations; and if the world should be permitted to enjoy a few years of peace and quietness, we may hope that in that respite from revolutionary madness, and from the far less

curable frenzy of imperial ambition, the means and opportunity may be obtained, of forming a more accurate and impartial judgment of the troubled period through which we have passed. After having vindicated his countrymen from the charge of jacobinism, M. Lavallee describes the vast majority of Frenchmen as desirous only of a government which shall be the guarantee and conservator of public liberty; careless about the name, provided the reality be secured.

‘Why, (he asks,) has France suffered and fought through the course of five-and-twenty years? It was to attain such a state of things as I have just described. What does she, at the present moment, require? That her strife shall not have been in vain But I fear that there are still some, whose interests and prejudices are in opposition to this anxious hope of the great majority of the French people, and who endeavour by an odious epithet to discredit the wisdom and the purity of this desire. These tactics are not new. Thus the jacobins stigmatized as royalists all the partisans of an equal liberty, and thus the *ultra*-royalists reproach as jacobins, those Frenchmen who stand up for a constitutional government.’

In a brief sketch of his own qualifications for the task he has undertaken, M. L. describes himself as having enjoyed the confidence of the count de Clermont-Tonnerre, and as having assisted him in his efforts to save Louis XVI. He then passed into the service of Roland, and until the close of the session of the national assembly, was at the head of the office *des comptes decadaires*. During the ministry of Benezech, he was principal commissary of the executive power; afterwards he became confidential secretary to a member of the directory, and finally, for ten years, *chief of division* in the grand chancery of the legion of honour. M. L.’s introduction, without any particular claim to novelty or interest, leads us through the usual routine of preparatory causes, which gradually but surely brought on the revolution; the low and selfish debauchery of Louis XV., the intriguing sycophancy of Maupeou, the indecisive character of Louis XVI., the unguarded and expensive dissipation of *Marie Antoinette*: and in addition to these defects of character, the practical errors of Louis in the recall of the refractory parliaments, and the alliance with the United States of America; these, with innumerable other blunders, and repeated failures, both theoretical and practical, were eagerly made use of by desperate and ambitious intriguers, to exasperate the public mind. Independently of the weakness of character, (very different from *intellectual* weakness,) of Louis, his manners and habits were not calculated to command respect. He was an excellent and sensible man, but without any thing dignified or kingly in his composition. His tastes were simple, but somewhat low;

his ordinary recreation was, we believe, working in a smithy; and in his visits to the theatre, he displayed no relish for the works of Corneille and Racine, while he exhibited the most extravagant delight at farcical and grotesque performances. The very excellencies of his character were injurious to him; and those qualities which would have made him amiable and respectable as a private individual, were destructive of his authority as a monarch. Nor was he happy in his choice of ministers. The selfish levity of Maurepas, the systematic restlessness of Brienne, the splendid *charlatanism* of Calonne, the vanity and ministerial insignificance of Necker, all, and each, contributed to the sure and terrible progress of the gathering storm. M. Lavalley describes the present king of France, as leading a retired and literary life; the count D'Artois as merely a man of pleasure; the house of Conde enjoying the *otium cum dignitate* at Chantilli; the prince of Conti distinguishing himself by an honourable frankness, 'censuring without reserve both men and things,' and reproving even his own son, whose 'pliant disposition rendered him more subservient to the royal will.'

But the most popular member of the royal family, was the miserable Orleans; tall and well made, but betraying in his carbuncled countenance the irregularities of his life; seeking popularity by the basest and most detestable means; and collecting around him debauchees and intriguers of the lowest and most desperate class, until men of higher talents and wider aims, found it convenient to make him their tool and their victim. The fortune which he inherited from his father, was immense; and yet so despicable was his rapacity, as to lead him into the grossest acts of meanness throughout the whole of his career. He began by seizing the plate and jewels of his father's widow, and carried his baseness to the incredible extent of stealing the very brilliants in which his father's portrait was set when presented to her. The whole of his life was worthy of its outset; and the only redeeming virtue which for a moment mingled itself with the mass of infamy, was manifested in the calmness and dignity with which he met his merited fate. The first of the factions which, in long and appalling succession, afflicted France, put this wretched man forward, as its ostensible hero, and would probably have placed him, for a time at least, upon the throne; but so excessive was his cowardice, that it compelled them to abandon him, at the very moment when his interest and their own seemed inseparably blended.

In the early scenes of the revolution, while there was much of turbulence, much enthusiasm, and much practical ignorance, displayed on the part of the new legislators, it seems to us impossible to deny that there was also, especially in the na-

tional assembly, much genuine patriotism and political integrity, and in not a few individuals commanding superiority of talent. Of the two principal leaders of the opposite parties, Mirabeau, 'the Brutus of patriotism,' and Maury, 'the Joad of royalty,' M. Lavallee sketches the characters at length; but the first is so well known, that we shall confine ourselves to the portrait of the second.

'In these stormy discussions appeared a man whose name, during four-and-twenty years, has never ceased to be famous; a priest whose portrait has never yet been drawn, except by passion; long boasted as their Demosthenes by the friends of royalty; long insulted as a Zoilus by the pretended friends of the people; invested with the purple, and the saintly halo, (*l'aureole des saints*,) by Pius VI.; now made to sit in sackcloth by Pius VII. by that pope who was in turn the creature, courtier, friend, chief-priest, and evil genius of Napoleon, but always infallible, because always pope. It is already perceived that I speak of the abbé Maury. Born in the Comtat Venaissin, at Vaureas. he came while still a young man, to Paris. He there attempted to tread in the steps of Bourdaloue, but he followed with a halting pace. He preached, and preached badly. he introduced himself to Diderot, and told him his failure; his provincial forwardness, his levitical airs, his antipathy to prejudice, pleased the philosopher, and he thought it a marvellous good joke to correct, adorn, and even to compose discourses to be delivered by a priest from the pulpit of truth. Diderot thus metamorphosed into a divine, puffed his pupil. Maury was intimate with d'Alembert, Marmontel, Helvetius, the baron d'Holbach, and others of the same stamp; the women especially assisted to bring him forward—such was the school in which he was educated. The panegyric of St. Vincent de Paule, a master-piece in its kind, was the result of this training. But he was poor, and it is a very necessary thing to be rich. His friends laid siege to the simplicity of the abbé Boismont, and persuaded him that a handsome pension would give him less trouble than the management of his official possessions; he was old, he loved ease and quiet, and he resigned his numerous benefices in favour of the abbé Maury; the abbey of Lyons was one of these. This abbey is near Peronne, and Maury was resident there, while the election to the States General were going forward. The *curé* of Danevoisin was elected, but after having excused himself as long as he could, he consented, only provided they would give him Maury for his colleague.'

We are told that sir Walter Raleigh burned part of his History of the World, on discovering his inability to ascertain the particulars of a transaction which took place before his eyes; and Henry IV. listening to the varying and contradictory accounts given by his officers, of a battle in which they had just

been engaged, is reported to have exclaimed—‘*So much for the truth of history.*’ But we believe that there never was a greater difference of opinion and statement on any subject, than on the action of the prince De Lambesc, when commanding a detachment in the Tuilleries. One account states him to have charged the multitude and wantonly sabred a helpless old man. ‘No,’ says another version; ‘it was a young man who was trying to cut off his retreat by shutting the *pont tournant*.’ Then we have the assurance of the committee of investigation, that two men were killed, one old, and the other young. A fourth authority affirms, that no one was killed, nor even wounded, but that a few blows were struck with the flat of the sabre. Now we have the deposition of M. Lavallee, that the prince galloped against an old man, threw him down, and hurt him severely.

If it were our intention to give our readers the story of the revolution, we should not select the disjointed narratives of M. L. for the subject of a connected abstract. He sadly neglects the intermediate gradations; he passes from one series of facts to another, without any kind of connexion. He frequently astonishes his readers with passages of which it is sometimes difficult to ascertain the meaning, and sometimes impossible to admit the truth. Of the latter description, there is in the first volume, a strange, rambling *tirade*, full of words, and hints, and mysteries; but, as we guess, ‘signifying nothing.’ He says, or seems to say, that the *Jesuits* had a principal share in the turbulent and sanguinary scenes of the revolution; that they were the secret agents in all the marking events; and that their mysterious missionaries were intermingled with all classes—clergy, nobles, patriots, demagogues, and whispering mischief to them all. This is very fine and very frightful for two or three pages, but it requires an amazing deal of evidence to make it plausible, and M. Lavallee gives none.

The constituent assembly having completed the constitution, resigned its delegation, and was followed by the legislative assembly which held its first sitting October 1, 1791. The former distinctions of royalist and patriot, were here lost, and three parties—the constitutional royalists, the republicans, and the anarchists, began their mortal strife. The most powerful speaker, and indeed in our opinion the only genuine orator, in this assembly, was Vergniaud, a man of brilliant talents, but incorrigibly indolent. It should seem, according to madame Roland, that he was not an extemporaneous speaker. In the translation of her ‘Appeal’ (Johnson 1796) she is made to affirm that ‘he did not speak without preparation, like Guadet; but his made speeches . . . may still be read with the greatest

pleasure.' The original phrase, of which this is, notwithstanding, a just rendering, is somewhat more equivocal: '*Il n' improvisat pas comme Guadet*,' may possibly only mean that he was not equal to Guadet in off-hand speaking, though we have certainly always understood it in the sense of the translation. This idea is supported by the extraordinary fact that, though his intrepidity was unquestionable, he made no effort to defend himself in the convention when the decree of arrest was carried against him, while Lanjuinais displayed the utmost boldness and eloquence. M. Lavallee, however, speaks of him in the following terms, which are directly at variance with the statement we have just given.

'It was seldom that Vergniaux delivered a studied speech; he possessed the great art of extemporizing; his reasoning was perfect; the connexion of his ideas exact; his diction pure and unaffected. . . More frequently appealing to the passions than to the understanding—When he had succeeded in awakening them, his bold apostrophes, his terrible imprecations, wrested from enthusiasm, what wisdom would have withheld. Inaccessible to fear, firm against the abuse, the murmurs, the clamour of the opposite party, nothing disturbed his presence of mind: and watching the return of silence, seizing it with dexterity, he thundered, he lightened, he triumphed. . . . His memory was prodigious. The eloquence of Mirabeau was more abrupt, (*saccadée*) that of Cazalés had in it more of effort. The abbé Maury was too parenthetical, and consequently his meaning not always obvious. The eloquence of Vergniaux was like a fine summer's day when the sun begins, pursues, and ends his career without a cloud, shedding light and heat in his brilliant course.'

Against this great man and his party, usually called collectively the *Gironde*, comprising nearly all the talents of the assembly, Robespierre and his satellites arrayed their formidable phalanx. Without either figure, voice, courage, or great powers, Maximilian Isidore Robespierre, by mere dint of steady cunning, destroyed nearly every obstacle in his way to empire, and failed, only by an accident as it appears, of obtaining the dictatorship of France. Instead of acting with energy and decision, the *gironde* wasted their time in secret consultations, and exhausted their own popularity and the patience of their auditors in public, by their incessant speaking. They were men of words, but their antagonists were men of deeds. The *gironde* had not resolute virtue enough to secure the confidence of good men, nor were they atrocious enough to meet the *jacobins* on their own terms; they were without an effective party, and they felt it. They hesitated and compromised; they advanced and retired: they contributed to the ruin of the monarchy, and they did not long survive it. Under the iron rule

of the anarchists, France became a scene of misery and blood; the best of her sons fell beneath the revolutionary axe; and the crushing sway of her tyrants has obtained a distinctive epithet of most expressive truth—the Reign of Terror.

It would be an interesting, but a too extensive task, to describe here the various struggles of these conflicting parties, the heroic but ineffectual resistance of the more moderate republicans, and the final ascendancy of the jacobins. Nor can we venture on the detail of the various intrigues and contests which brought on the downfall of that tremendous power. We find, however, in the volumes before us, an account of the terrible debate which sealed the doom of Robespierre, more complete and interesting than we remember to have seen before. He had long convinced those with whom he had been accustomed to act, that he considered them only as the instruments of his elevation, and that whenever his timid jealousy should suspect in them any intention of rivalry, their fate was determined. After having raised himself to power by the assistance of Danton, he had sent him to the scaffold; others of his *friends* had at different periods shared the same destruction. Billaud de Varennes and Collot D'Herbois, his associates in crime, and members with him of the committee of public safety, apprehensive of the same fate, determined to make a desperate effort to anticipate it. After various manœuvres and transactions, in which the cowardice of Robespierre neutralized the desperate energy of his devoted partisans, the decisive day arrived—the ever famous 9 *Thermidor*.

‘Never since the trial of Louis XVI. had the convention been so numerous. At ten o'clock it was all assembled. The mob of Robespierre filled the tribunes. He appeared; murmurs announced his arrival; he entered elate with hope; he sat down depressed with fear. St. Just ascended the tribune, but he had uttered only a few sentences when he was interrupted by Tallien from the summit of the *Mountain*,’ (*a part of the hall so called*.)

The speech which is quoted by M. Lavallee, as delivered by Tallien, is evidently from recollection only, and we shall therefore pass it by: but we have before us in another work a description of Tallien's person and manner on this occasion, which we shall insert.

‘In how high a rank does that orator deserve to be placed, who, concealing a dagger in his vest, durst form the fearless resolution of sacrificing Robespierre in full senate, if his eloquence had failed to beat down the tyrant, and who overthrew him by the force of his words alone. Sufficient care has not been taken to record the terrible and vehement eloquence of Tallien in that decisive moment. Never perhaps did any orator combine such physical and

moral powers to uncover an abyss and reveal its dangers to his affrighted hearers. Never was a more rapid and more terrible impulse communicated: his voice, his gesture, his broken words, his eyes flashing with anger and horror, the shuddering of his whole frame, all announced the sublimest effort of human eloquence. It triumphed; and had this been its only service to humanity, its blessings should be held in eternal memory.' (*Bibliothèque d'un homme de gout. Vol. 4. p. 212.*)

We return to M. Lavallee.

'Hardly had Tallien finished, when Robespierre darted to the tribune. At the same moment, twenty members rush towards it. Instantly the whole *mountain* arose, and cries of—*down with Robespierre—down with the tyrant*, resounded from every side. Vadier, Amar, Bourdon de l'Oise, Lecointre de Versailles, Collot d'Herbois, Leonard Bourdon, Javogue, Legendre, even Billaud de Varennes, roused from his profound dissimulation by a dexterous appeal from Tallien, spoke in succession. O what crimes, what hateful intrigues, what bloody oppressions, what unheard of iniquities, were brought to light on that terrible morning! During more than two hours Robespierre was absolutely in convulsions; all the movements of his frame expressed the rage which devoured him. A hundred times did he demand permission to speak, and could not obtain it. He clung to the stair of the tribune, and could not be torn from it, and in this position the speakers who followed each other in rapid succession, seemed like so many divinities launching thunders at his head, and the countless details of his atrocities streamed upon him like a rain of fire. His strength at last gave way. He sought on every seat a resting place, and every where met with a repulse. He was pursued from place to place with the bitterest reproaches. When he seemed nearly fainting, one said to him, "*You are choaked with the blood of Danton.*" "*Wretch, touch not that bench,*" exclaimed another, "*for there sat Vergniaux.*" He advanced to the galleries, and raising his arms towards those who filled them, exclaimed, *Will you abandon me, will you suffer me to perish; me, your champion?*—All were silent; and those very men who were posted there by himself, terrified at so unexpected a scene, remained motionless at his appeal. Robespierre, sinking with exhaustion, succeeded once more in reaching the front of the tribune. Thuriot was president. Robespierre exclaimed to him: *President of assassins, for the last time I ask leave to speak.* At this moment a general cry bursts forth—*The decree of accusation to the vote!* The President put the question, and not a single deputy kept his seat.'

At this very time, when Robespierre seemed abandoned by all, and hunted to the very precipice of his fate, a dreadful proof was afforded of the awful ascendancy which he had acquired. One member demanded to be included in his act of accusation, and when he was conveyed to prison by the *gens-*

d'armes, the jailors one, and all, refused to incur the responsibility of receiving him, and he was conveyed to the *commune* which immediately ordered the *tocsin* to be rung and declared itself in a state of insurrection. Had Robespierre possessed common courage, he would probably even now have been victorious; but he was wholly unmanned; he wept like an infant, and whined most lamentably about the ingratitude of men. In the mean time, the leaders of the opposite party acted with promptness and decision. Legendre, singly, entered the hall of the jacobins, and by his rude but vigorous eloquence, actually dispersed them, put out the lights, locked the doors, and carried the keys to the convention. Barras and Leonard Bourdon collected some battalions of national guards, and their columns met at the house of the *commune*. They ascended the staircase amid shouts of *vive la convention*, and the reign of Robespierre was at an end. As another proof of the uncertainty of history, and even of evidence, we may refer to the different ways of narrating one of the most important particulars in the fall of this execrable being. His jaw-bone was broken by a pistol-shot:—Who fired it? General report affirmed that it was himself. M. Lavalley was told by well-informed men, that it was a *gen-d'arme*. The *Dictionnaire des Hommes Marquans* hints that his brother pulled the trigger. On turning to the *Dictionnaire Historique*, we find the name of the *gen d'arme* Charles Meda to whom the honour of shooting him is assigned; and to crown this assemblage of contradictions, Beaulieu, in his very interesting *Essais Historiques*, affirms that it was Robespierre himself who fired the pistol, and produces in a note the testimony of the keeper of the hotel de ville, who was of course on the spot, and declares that he had witnessed the act.

The attempt to purify the representative body, was a very partial one. The motives of the principal agents were far from being pure and patriotic; their primary object was clearly to save themselves from the visitations of Robespierre, and the second, to secure for their own profit his popularity and power. In this last they completely failed; the blow which they had struck, while it was effectual in the removal of their enemy, was equally so in the destruction of the tyranny he had established. The Thermidorians, by destroying their idol, destroyed the talisman of their destinies. One advantage they had over their master, but that was not enough; they were men of courage, but Robespierre trembled at a naked sword, and could not summon up courage to mount even a led horse. He was influenced by dreams, and consulted fortune-tellers. Notwithstanding all these miserable weaknesses, however, he had a certain hold upon the public mind, and his successors had

none. The most able man among them, it should seem, was Collot D'Herbois a man of daring spirit, handsome exterior, strong voice, and with the most perfect knowledge of what he called the *stage-play* of the revolution. He had formerly been an actor of considerable celebrity in characters of a particular cast, and Lavallee, who was intimate with him in early life, describes him as a man of engaging but dissolute manners. Nor was he unmindful of his ancient friendships, for he interfered on a very important occasion, without any solicitation, to save the life of his former intimate, who does not appear to have been at any time a party man.

Some interesting anecdotes are related of this sanguinary ruffian, which may well illustrate the misery of the conscious mind; but these, with many others of the same description relating to different individuals, we are compelled to omit. The most singular circumstance which is mentioned in this part of the book, is the fact, that Robespierre maintained a secret and mysterious police, which was in brisk correspondence with all the minor authorities in every part of France. After his death, a number of official letters came in from all parts of the kingdom, referring to previous correspondence, and replying to official inquiries, which could be traced to no proper source. A few days after, the secret office itself was discovered; at least its desks and inkstands were detected, but the occupants had fled, and never afterwards appeared to claim the reward of their services.

The times which succeeded the fall of Robespierre, were not less stormy, and scarcely less bloody, than those which preceded. The terrible *re-action*, the famous *Reveil du peuple*, stimulated 'the French to mutual slaughter;' and few were the portions of the south of France that escaped this scourge, which afflicted humanity under the pretext of avenging its violations.

'The paroxysms of this horrible fever lasted several months. Hundreds of corpses at a time were thrown into the Rhone; the Mediterranean received the assassins of the *second* year of the Republic, despatched by the assassins of the *fourth*; and in this enormous crowd of victims, the bones of the innocent slain in Lyons, were mingled in the ocean with the skeletons of the innocent murdered by Carrier in Nantes.'

The twelfth *Germinal* and the first *Prairial*, were days of insurrection in Paris; the latter especially threatened fearful results. A deputy was assassinated, the jacobins were stirring, and a civil war seemed inevitable; but the more moderate party obtained the ascendancy, and tranquillity was restored. Affairs went on in their usual train, little varied by domestic

changes, till the battle of the *Muscadins*, or in more common phrase, *the revolt of the sections* on the twelfth and thirteenth *Vendemiaire*, (October the third and fourth, 1795,) in which Bonaparte commanded, under Barras, the conventional force. Soon after this, the convention dissolved itself, after ordering the suppression of the punishment of death, when a general peace should take place; an example which might well have been followed at the present time, instead of retaining the old and barbarous system of mutilation and dismembering, in addition to the *extremum supplicium*.

In the new system of government the power was divided; the convention was changed into two councils, and the committee of public safety became an executive directory, of which the first members were Barras, Latourneur, Lareveillere-Lopaux, Reubel, and Carnot. M. Lavallee eulogizes each of these men. The first was splendid and brave; the second and third were well-intentioned, and proof against flattery and intrigue; the fourth was blessed with 'an excellent heart and an inflexible probity;' Carnot, we shall first quote in opposition to M. Lavallee, and then bestow a few words on his own character. We have seen the high praise given to the directory by M. L.; let us now see what is said of them by Carnot, of whom he speaks in far higher terms.

'Reubel is the patron of men accused of theft and dilapidation, as is Barras of nobles of blasted character, and Lareveillere of abandoned priests!'. 'I have never heard expressions more similar to the language of Robespierre than those of Reubel. He appears entirely convinced that probity and patriotism are two things absolutely incompatible with each other.'

Such were the sentiments of Carnot, (to which M. Lavallee makes no allusion whatsoever,) respecting the character of his brother directors. Of Carnot himself, we find it more difficult to give a decided opinion. Repeated and recent attempts have been made to prove him to be a man of pure and spotless worth, and M. L. speaks of his 'loyal frankness,' his 'noble character,' his 'estrangedness from faction' and his 'opposition to all kinds of despotism on behalf of his country.' Now, setting aside his vote for the death of Louis XVI., of which, though we think much, we shall at present say little, it is a thing hard to believe of a man who has all his life time been connected with the very worst factions, that his spirit is the reverse of factions; and it is yet more difficult to credit his uniform 'opposition to despotism in behalf of his country,' when we find him sanctioning by his undeniable signature, the most intolerable kind of despotism, the bloody oppressions of the reign of terror. Prudhomme, in his *Histoire des Crimes*,

the most original and important work, even with all its defects yet published respecting this revolution, quotes the authority of Isabeau, a furious member of the committee of public safety, for the participation of Carnot in all the measures of that sanguinary group. In the sixth volume of his collections, also, he cites a fragment of his correspondence with Lebon, to which, in conjunction with those of Barrere and Billaud, his signature is affixed, and in which he applauds the atrocities of that ferocious assassin, and excites him to perseverance, besides giving a pretty broad hint, respecting the expediency of bribing informers. In another page of the same work, we find the following note.

‘Carnot, one of the members of this famous committee of destruction, publicly defended them (Barrere, Billaud, and Collot) and declared that if his colleagues were guilty, *he had shared their crimes*. It was not necessary for Carnot to make this confession; every one knows that under pretext of being wholly occupied in the war department, he really shared in every sanguinary decree, and that of some he was the sole author; of this last description, may be instanced the instruction to the Orange Commission.’

With respect to his talents, they are undeniable, though attempts have been made to diminish his reputation in this particular. We shall pass over the reign of the directory with all its intrigues, oppressions, and imbecilities, and devote the remainder of this article to that extraordinary man, who, after having been the *protege* of Barras, and raised by his own military talents to the height of popularity and fame, overthrew the directorial chair of his patron, and replaced it by his own imperial throne. In fact, Bonaparte is evidently the idol of M. Lavallee's imagination; he gets sight of him as soon as he possibly can, and reproduces him occasionally on the scene, until at last he establishes him, the object of perpetual eulogy, or apology, on the vast theatre of his ambition. When he visited Paris after his brilliant campaign in Italy, he was courted and flattered by all parties; but he conducted himself with the most impenetrable reserve. From this moment he became ‘the chief of the most formidable of factions,’ the idol of the soldiery. We pass over a number of unimportant, but not altogether uninteresting details, connected with this visit, and come at once to his return from Egypt. A report of his death had been universally believed, and the depression of the public mind was excessive; in the midst of this mourning he suddenly presented himself; the Parisians were frantic with joy.

——‘but it was the joy of egotism. Let not Bonaparte deceive himself, it was not the joy of affection; the people of Paris love

nobody. They love themselves and themselves only. All their outward demonstrations of attachment refer only to themselves. The hope of their own happiness alone occupies them, and if the object of their hope changed ten times a day, as often would they change their salutations. France by an inconceivable blindness, has suffered Paris to usurp the privilege of originating every movement, so that if Paris commits an error, all France repeats it. Without Paris, Bonaparte would have never reigned. Did then Paris love Bonaparte? No; but the Parisians were tired of the directory, as they had been previously tired of the convention, tired of Louis XVI., tired of Louis XV., and as we shall presently see them become tired of Bonaparte, and so on to the end of time, unless kings should have the good sense to remember that Paris is not France.'

However all this may be, Paris at least was frantic with delight. The slightest movements of Bonaparte were watched and attended by the people; he was drawn in triumph, he was the object of universal adoration, and the people, as well as the soldiery, bore him to the throne. The directory went quietly out of the way; the council of five hundred was somewhat restive, but the bayonet settled the dispute, and Bonaparte, under the modest title of consul, became virtually king of France. The popular government which had more or less prevailed hitherto, was destroyed in the dispersion of the five hundred, and France became subject to military power.

'The 18th Brumaire was to the different factions, the head of Medusa. The commotion ceased, but they were still frozen. Is then my work finished? No.—I have still to paint the faction of one man against Europe, and of Europe against one man. Human enmities from this time, assume a character of grandeur till now unknown. We shall no more witness the ignoble contests of a Robespierre, or of a Marat. Their scaffolds are too narrow for the number of victims; Death requires plains and provinces for its theatre, and its voracity demands whole nations. The ambition of a single man is about to sacrifice generations *en masse*, and henceforward infants in their cradles will be marked with these words—For Battle and for Death.

'It seemed as if nature in forming him (Bonaparte) designed to try how far the power of man and the power of heaven could go; the power of man to dare, the power of heaven to confound. Ambition was always the vanguard of his thoughts. He mingled it with every thing, even with his misfortunes. The most celebrated conquerors, the most famous devastators of the world, were contented with one fall; he required two. Not choosing to resemble any one, he began his catastrophe over again, in order that he might finish it in his own way. One day I saw him examining the crowns of some ancient rulers. He took the crown of Attila, and placed it on his head.—“ *How! his head was bigger than mine!*

I could not have believed it," he said harshly, but with a smile; the smile was a bitter one.'

Sieyes, it should seem, had calculated upon the consulship, and was extremely mortified at the exaltation of Bonaparte. He had, however, only depended upon his individual superiority, while his antagonist gave broad hints of his popularity with the army: Sieyes sullenly gave way, and on the 25th of December, 1799, the consuls were installed,

'and the constitution presented to the French people, was, according to custom, accepted. At this same period Washington was sinking into the grave. Thus by a singular contrast, a great people in the New World wept the loss of the founder of their liberties, whilst at the same time a great nation on the Old Continent hailed the destroyer of its freedom.'

During the commotions of the 18th *Brumaire* the *five per cents* were only at *nine francs*. Many took advantage of this to purchase largely, and among others Talleyrand. Many years after, the emperor, when somewhat out of humour, asked him how he had contrived to be so rich. '*Sire,*' said the dexterous courtier, '*I put my trust in the 18th Brumaire.*'

In less than two months after his installation, the first consul took up his residence in the palace of the Tuilleries. Sieyes expressed his apprehension at this bold step. '*Never fear,*' said Napoleon, '*if I had been Louis XVI. I should never have left it.*' About a year after his accession, the celebrated *infernal machine plot*, exposed his life to the most imminent hazard. The particulars of this detestable event are well known, we shall not therefore repeat them. His life was saved by the dexterity of his favourite coachman Germain, who passed the machine with amazing rapidity, and without touching it; though the space left was barely the width of the carriage.

'The night which followed was terrible. He did not go to bed. One of my friends who remained with him, has described to me this night, to which many a subsequent event may be referred. Sometimes plunged in gloomy silence, sometimes agitated, walking backward and forward with hasty strides—the wretches—the wretches—repeatedly uttered, were almost the only words which escaped his lips. Notwithstanding the time of year (December) the night was uncommonly fine. He often opened the windows that he might breathe the fresh air. Madame Bonaparte never left him. The second and third consuls had arrived, and he found them at the palace on his return from the opera. He met them with an assumed air of serenity—"Well, what say you of this extravagance? If I alone had been endangered, it would not have signified, but so many victims!"—The consuls replied in those common phrases, which every body employs in similar circumstances; their presence was a restraint to him, and he dis-

missed them. The minister of police made his appearance: they conversed a few minutes in the recess of a window, and the minister retired. He returned at two in the morning; they were shut up in the consul's cabinet for a quarter of an hour, and then came out still in conversation. The consul held in his hand a quantity of bank bills, he gave them to the minister.—*Send immediately to the wounded, let me see the list; if that is not enough, give more; let them know that it comes from me.*—His brothers came in; Lucien inquired particulars; he cut him short. He gave his hand in silence to Joseph. He spoke mildly to Louis—*Sitting up will makê you ill; go to bed.*—They staid, however, some time in conversation with Mad. Bonaparte. She was close to the fire, as the night was cold. He sometimes, though rarely, sat down—*This is worse than Egypt,*—said he repeatedly, to the friend from whom I have these details.—*They will have it so, they shall pay me this most dearly.* At three he was hungry. A fowl and some other little things were brought in. *You don't eat?* said he to Mad. Bonaparte. *Vo,* said she, *I prefer tea.*—*Tea!*—*are you an English-woman? Are you deaf?* said he harshly to a valet de chambre, *Tea for madame Bonaparte.* He drank Bordeaux wine, this was an extraordinary thing, for his common drink was water. He asked for Port. *Here, such a one,* (I do not mention the person's name) *drink some of this Port, they have none so good.* I leave the reader to guess of whom he spoke. He approached the fire, threw himself into an arm chair, said, *I am going to sleep,* and was asleep in a moment. He always slept at pleasure, this was his peculiar faculty; but what will be with difficulty believed, and yet is most severely true, is the fact that this man, whose indefatigable activity has amazed the whole world, had the slowest pulse of any man living. At seven o'clock, when the day dawned, he mounted on horseback, followed by his Mameluke Rustan, and went to inspect some public works. At nine he returned, and entered on the usual labours of the day.

M. Lavallee passes lightly over the various events, intrigues, conspiracies, and exhibitions of all kinds, which preceded the assumption of the imperial crown. He speaks with proper reprehension of the assassination of Pichegru, and of the still more atrocious murder of the duke D'Enghien, which he considers as exclusively the self-originated act of Napoleon. Of his abruptness and impatience we find some remarkable instances. On one occasion he turned a minister of state who wrote a 'vile cramp hand,' into his secretary; dictated a letter to the emperor of Austria, and sent it off by a courier, with all his own repeated alterations, and with all the erasures of the minister. This peculiar cast of character

'occasioned scenes sometimes laughable and sometimes touching. The employment of his confidential secretaries was, of all kinds of slavery, the least supportable. Day and night it was necessary to

be on the spot. Sleep, meals, health, fatigue, nothing was regarded. A minute's absence would have been a crime. Friends, pleasures, public amusements, *promenades*, rest, all must be given up. The baron de Maineval, the baron Fain, knew this by hard experience. But at the same time they enjoyed his boundless confidence, the most implicit reliance on their discretion, and a truly royal liberality; they both deserved his confidence. One day at two o'clock the emperor went out to hunt. He will probably, as usual, be absent four hours. Maineval calculates: it is his father's *jour de fete*; he may surely venture to leave the palace for a short time. He has bought a little villa, and is desirous to present it to his beloved father, and to give him the title deeds. He sets out, the whole family is collected, he is warmly greeted, they 'see him so seldom.' The present is given; the joy increases; dinner is ready, and he is pressed to stop. He refuses, 'the emperor may return and ask for me'——'O, he won't be angry—you are never away.' The entreaties redouble. At last he yields, and time flows swiftly when we are surrounded by those we love. In the mean time the emperor returns, and even sooner than usual. He enters his cabinet—*Maineval! Let him be called.* They seek him in vain. Napoleon grows impatient—*Well, Maineval!* They fear to tell him that he is absent, but at last it is impossible to conceal it. At length Maineval returns. 'The emperor has inquired for you; he is angry.' 'All is lost,' said Maineval to himself. He makes up his mind, however, and presents himself. His reception was terrible—*Where do you come from? go about your business. I do not want men who neglect their duty.* Maineval trembling retires, he did not sleep all night; he saw his hopes deceived, his services lost, his fortune missed, it was a dreadful night. Day at length came; he reflected——'he did not give me a formal dismissal.'—He dressed himself, and at the usual hour, went to the emperor's cabinet. Some moments after the emperor enters, looks at him, does not speak to him, writes a note, rises, and walks about. Maineval continues the task he has in hand without lifting up his eyes. The emperor with his hands behind his back stops before him, and abruptly asks—*What is the matter with you? Are you ill?*—'No, sire,' timidly replies Maineval, rising up to answer. *Sit down, you are ill, I don't like people to tell me falsehoods. I insist on knowing.* 'Sire, the fear of having forfeited the kindness of your majesty deprived me of sleep, it is possible that my countenance'.....*Where were you then yesterday? tell me. Where were you?* Maineval told him the motives of his absence. 'I thought this little property would gratify my father; his too grateful tenderness exacted from me the sacrifice of a few minutes, and I forgot myself'.....*And where did you get the money to buy this house?*—'Sire, I had saved it out of the salary which your majesty condescends to assign me.'—The emperor after having looked at him steadily for a few minutes, said—*Take a slip of paper and write—*"The treasurer of my Civil List will pay to the bearer

the sum of eighty thousand francs."—He took the draft and signed it.—*There, put that in your pocket, and now let us set about our regular business.*

'Napoleon took, or rather wasted, a great deal of snuff. One morning he was alone in his cabinet, he rang the bell. I was in waiting. (I relate the anecdote in the words of the valet de chambre, who told it me.) He rang; I went in. He was seated before his desk, writing. He rang a second time; he had neither seen nor heard me enter. That he might notice me, I pronounced the word 'Sire.' Without leaving off writing, or raising his eyes, he merely said, *Some snuff.* His snuff-box was on the desk; I took it and went to open a small cupboard in which the flask was kept. It was excellent, and I thought the emperor closely engaged. I filled his snuff-box, and took the opportunity of filling mine. Apparently, some treacherous glass betrayed me—*Well—this snuff! when am I to have it?* He spoke in his angry voice. I started with fright; happily his back was towards me. I clapped my own snuff-box into my pocket, and presented him with his.—'Here it is, sire.'—*Blockhead*—said he sharply, almost snatching it out of my hand—*when people take to stealing, they should be alert.* I was sadly frightened, but the admonition made me laugh.'

A very lively and picturesque description is given of the ceremonies of the coronation, and some curious particulars of the reception of the pope. Napoleon and his good people of Paris, seem to have tried who should *quiz* his holiness most effectually. Napoleon invited him to court to witness voluptuous dances, and he was introduced to the empress by the reputed *atheist* Lalande; while the Parisians flocked round the balcony of his hotel, insisted on his showing himself, laughed heartily at him whenever he appeared, and when he gave them his benediction, shouted *encore*. In the return of the coronation train from Notre Dame to the Tuilleries, the pope and his attendants afforded infinite entertainment to the spectators. There was his holiness's crossbearer, a *Monsignor Sproni*, with a lengthened Jesuitical phiz, long, black, greasy hair, and a large broad brimmed hat, mounted on a mule. The mob were amused with this grave personage beyond all decency; and when his mule became restive, and the grooms who led the animal were about to urge it forward by blows, the priest calling out in great wrath,—'Don't touch it,—don't touch it; its consecrated,' their mirth was perfectly outrageous.

There is a great deal of whimsical speculation, in the third volume, respecting the invasion of Great Britain; M. Lavallee thinks it very practicable, but seems doubtful of ultimate success. He appears to think it not exceedingly improbable that we might have taken a fancy to Napoleon, and then, 'the reign of a man like him must have established our dominion over

the world.' He pays us very high compliments, admits that we have overcome France, and affirms that Napoleon's antipathy against England was the cause of his destruction.

"For me," he exclaims, "I own no conqueror but England. Let all the rest abate their pride; they were but the victor's tools. Those who are paid to fight, have no right to seat themselves in the car of victory. . . . England, thy battle has raged through a hundred years—thine is the triumph! Such is the will of heaven. But, at least, thou canst honour heroism, thou wilt not withhold from France the tribute of thy admiration." "

It has been usually taken for granted, that although Napoleon had preferences, he had no attachments. This M. Lavallee contradicts. He calls Eugene Beauharnois, 'the cherished child;' Lasnes 'the friend of the heart;' and mentions several others towards whom he felt a strong affection. In connexion with the account of the death of the latter, a story is told of an early prophecy, made in a kind of frolic, by Bonaparte. During the brilliant campaigns of Italy, the generals were almost all young, and much addicted to the pleasures, not always innocent, of youth. One day, they were assembled at the general's lodging, and in a mood of gay and lightsome fancy, he proposed to tell all their fortunes. He took their hands in turn, and promised all the wild and extravagant things imaginable respecting their future destinies. When he came to Lasnes, he looked at his hand, and passed on without speaking; Lasnes astonished inquired the reason, and the more Bonaparte evaded his questions, the more he urged them. At last, the reluctant oracle, pointing out a certain line, pronounced that it was his fate to fall by a cannon shot. Bonaparte did not hazard a great deal by this prophecy, for Lasnes was always thrusting himself in the way of danger, and was covered with scars. He had been wounded more than thirty times before the fatal ball destroyed him. More anecdotes might be quoted, but we have already extracted the most interesting, and we shall therefore conclude our remarks on these interesting volumes.

ART. IV.—*A new Explanation of the Ebbing and Flowing of the Sea, upon the Principles of Gravitation.* By S. Bennett. New York. 1816. 8vo. pp. 79.

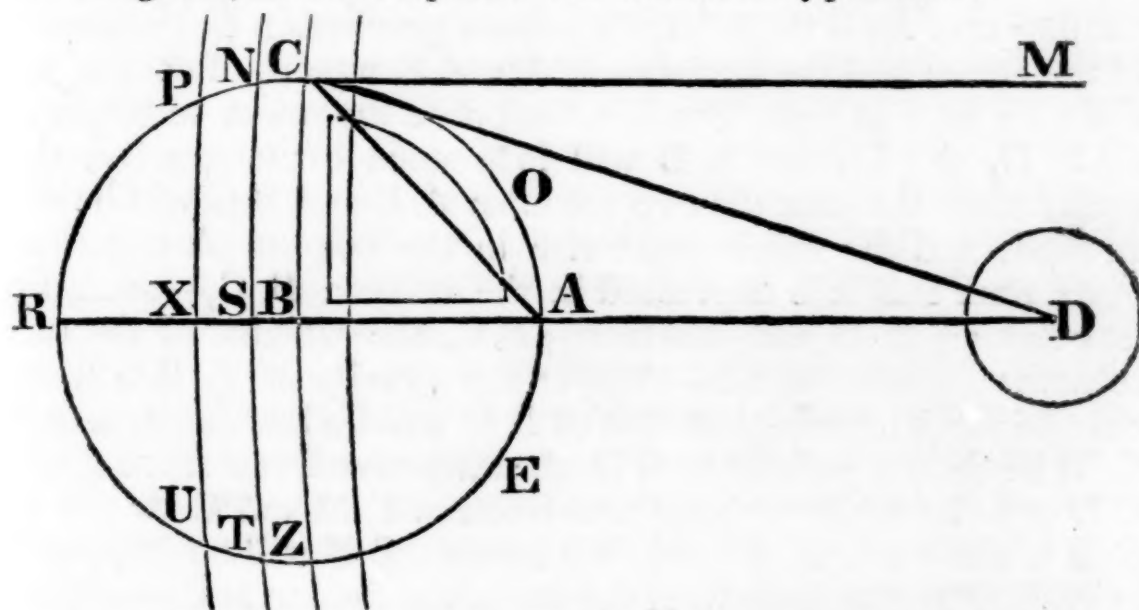
MR. BENNETT is, we think, a man of considerable ingenuity, and of a great deal of confidence. He says he has meditated on the subject of tides for more than ten years; and 'now finds himself compelled to lay the result before the world.' We admire this patience exceedingly; and as we think the author has escaped just ten times as much ridicule as he would have incurred by publishing the crude results of his

earlier meditations, we advise him—the next time he undertakes to subvert the doctrines of ‘the incomparable sir Isaac Newton’ (p. 7. introd.)—to meditate silently, at least twenty years upon the subject, before he runs the venture of meditating aloud. We know how uncivil it is to quote a person against himself; but really Mr. Bennett has hit our own ideas so much better than we could express them ourselves, that we must be permitted to transcribe his phraseology word for word. ‘Every now and then (says he, Introd. p. 7.) we hear of something under the name of *Newton refuted*; but when we come to examine what it is, we find nothing but some thoughtless trash, from persons altogether destitute of mathematical information.’ We do not think this is all applicable to the author before us. There is a plausibility and persuasiveness about him, which is not often found in those persons who publish false theories on mathematics;—a department of human knowledge in which error is, in general, so easily distinguished from truth. His reasoning is peculiarly fitted to take the great majority of readers; who cannot be supposed to comprehend the operations of the various laws and forces which unite in the production of some planetary phenomena,—and who always lend a willing ear to such explanations as consist of a few simple steps and coincide with what they see every day upon the surface of their own planet. His theory depends, as our readers will soon see, upon what he has given the name of *lateral gravitation*; a species of force which was first suggested to him by observing how much easier a bale of goods may be pulled into the loft than be hoisted to the gable of a store. Without regarding at all the other forces which must operate upon any body of water on the surface of our globe, he has carried this simple principle into the phenomena of the heavens; and what work he makes among the bodies there by means of his blocks and tackle we shall presently enable our readers to see. In the meantime we are going to show them about as curious a specimen of philosophical disquisition as perhaps they ever encountered. Mr. Bennett attacks a part of the Newtonian system after the following manner:—

‘I might here add for another reason, if it was necessary, that if there was an actual falling of the earth towards the moon, the further surface of the earth would be *most of all* attracted, or more correctly, would gravitate more in the direction of the moon *than any other part of the earth*; for it would gravitate in that line, at once towards the moon, and towards the earth, and its gravitation would amount to the sum of both. Now it would be very singular indeed, if those very particles so situate should lag behind; for to say that they would, would be to say that these very particles gra-

vitating more than *any other* in that direction, that is, in the direction of the fall, yet turn sulky and will not come up so fast as others which are actuated by a *less* force; in a word, it would be to say, that the *greater* is *not* the *greater*; that a greater cause produces a less effect than a less cause, and so on. Again, once more ('and besides,' he ought to have added); supposing the earth was in a state of actual falling towards the moon, the *centre* of the earth would be influenced in *that direction* by the *moon only*, but the *farther surface* would be actuated in the *same direction* by the moon *nearly as much as the centre*, and by the whole body of the *earth* into the bargain; which, as has been shown, is 144,000 times greater than the other, and yet we are required to believe that those very particles will still not keep up.'—pp. 40-1-2.

Nobody has ever pretended that the theory of Newton could account for all the phenomena which it was meant to explain; and it has always seemed a very cogent objection to the system, that the least seas should have the greatest tides. During our examination of Mr. Bennett's Theory, we discovered a method of clearing up the subject, which, though it depends upon the application of obvious hydrostatical principles, is, we apprehend, a pretty satisfactory explication of the phenomenon. First, however, we must proceed to construct our diagram, and to disprove our author's hypothesis.



Let C A E represent the earth, D the moon, A B a column of water extending from the centre of the earth to the circumference, and B C a similar column at right angles to B A. Mr. Bennett's theory is founded on these two propositions:

I. That the attraction of the moon **D** will not cause the water to rise at **A**.

II. That the waters on the other side of C from the moon, as at N, will begin to move towards C by their lateral gravitation towards the moon D.

Now we grant that if the column of water *B A* were not connected with any other column running in a different direction, as *B C*, there could be no elevation of the particles at *A* by the attraction of the moon *D*; for the attraction of the moon, on the supposition that she is only one-fortieth of the earth's weight, and 59 semi-diameters* from its surface, would not, at *A*, be any more than $\frac{1}{40}$ of $\frac{1}{59 \times 59} = \frac{1}{27}$ of the earth's attraction; while it would be still less at any other part of the column between *A* and *B*;—a force which could not by any means counteract the attraction of the earth so much as to lift up the whole column of water, *A B*, and cause its prolongation at *A*.—This is the reasoning of our author; and it is unquestionably correct reasoning. But then, not satisfied with the whole truth, he goes on to conclude, that the tides cannot be raised at *A*, by the greater attraction of the moon for the particles at *A*, than for those at *B*:—a conclusion which can only be good upon the supposition, that the column of water *A B* has no connexion with any other column, running in a different direction, as *B C*. Let us suppose a communication, however, between *A B* and *B C* at the point *B*;—then, whatever be the magnitudes of the two columns *A B* and *B C*, they will balance each other, provided nothing acts upon them but their own gravitation to the centre of the earth; and the surfaces at *A* and *C* would, of course, remain for ever at rest. But if we suppose the moon to begin to act at *D*, the column *A B* will lose some of its gravity; the equilibrium between the two columns *A B* and *B C* will be destroyed; and the water must rise in the column *A B*, at the same time that it is depressed in the column *B C*,—until, by lengthening *A B* and shortening *B C*, the weights of the two columns become equal.—Again; the gravity of *A B* will not only be diminished,—but that of *B C* will be increased. For if *C M* be drawn parallel to *B D*, the attractive force of the moon *C D* may be resolved into the two forces *C M* and *C B*; and as *C B* is one-sixtieth of *C M*, the column *C B* will be increased in gravity by one-sixtieth of the moon's attraction at *C*;—a force which would alone depress the column *C B* about $2\frac{44}{100}$ feet.—Nor does it matter in what direction the two columns *A B* and *B C* run,—provided they terminate in the points *A* and *C*:—they may either meet at the centre *B*; or go straight from *A* to *C*; or go round in the curve *A O C*. The effect will be the same,—an elevation of the waters at *A* and a correspondent depression at *C*; as will be abundantly evident to every person

* Our readers will perceive that on our diagram the moon is by no means 59 semi-diameters from the earth.

understanding the principles of hydrostatics. So much for 'the incomparable sir Isaac Newton.' Now for the 'incomparable' Mr. Bennett.

He asserts, that, if there be water on the other side of C from the moon D, as at N and P,—when the moon is in the horizon C, the waters at N and P will begin to run towards C, by their lateral or horizontal gravitation towards the moon. This proposition, we confess, appears, at first sight, very probable; for if there is nothing to hinder their motion but their natural inertia, the slightest force operating on the particles at N and P, in a horizontal direction, must produce some effect. Now that the moon does actually attract the particles at N and P, is as plain as eyes can make it;—and we should be obliged to grant, therefore, that by this attraction, the particles P and N would run towards C, and form a tide there if they met with the resistance of the land,—were it not for a circumstance neglected by our author, which instead of permitting the particles at P and N to move towards C will, as we shall show, cause them to move in the very opposite direction.

Let C Z, N T, and P U, be arcs of concentric circles described round the common centre of gravity of the earth and the moon, passing through the earth; now it is evident, by inspection, that C B Z is the circle in which a particle at the centre of the earth moves, in going round the common centre of gravity; and consequently that there is a perfect balance between the centrifugal force of the particle at the centre B acquired by its motion round the common centre of gravity between the earth and the moon,—and the centripetal force of that particle caused by the attraction of the latter body. The same may be said of all the particles of matter touching the line C Z. As they are at the same distance from the centre round which the earth revolves every lunation; their centripetal and centrifugal forces are the same as those of the particle at B; and therefore a particle at C,—being operated upon by a centrifugal force precisely equal to the attraction of the moon,—is balanced in its situation at C.

But this is not the case as it respects the particles at N, S, and T; for, being farther from the moon, they have a less centripetal force; while, by their movement in a larger circle and with a greater velocity, they have a greater centrifugal force: on both of which accounts the particle N will recede from C, the particles S from B, and the particle T from Z.—The same may be said of the particles in the other circles; that at P receding from that at N, the one at X from that at S, and that at U from the one at T. The greatest effect will be produced at R; because there the centripetal force is least, while the centri-

fugal is greatest. But in the line B R the only effect will be, to diminish the weight of the column. The particles will not move, unless they are fluid themselves, and connected with another column of fluid particles terminating at the surface in a different direction, as B Z or B C; when the same effect will be produced as we proved to take place by a communication between the columns A B and B C,—that is, a rising of the waters at R and a depression of those at C and Z. On the other side of C B Z, again, for reasons which are very obvious, the centripetal force will overcome the centrifugal, and the water must, consequently, rise at A. These conclusions, while they serve to demonstrate the fallacy of Mr. Bennett's theory, will, we apprehend, enable us to clear up those obscure parts of sir Isaac Newton's, which have heretofore been a stumbling block to the universal prevalence of his system. What we allude to more particularly is the phenomenon of tides rising higher in narrow seas, than they do in wide ones.

I. If there be two lakes of equal size on the equator 90 degrees apart, as at A and C, connected with each other and with no other water, either by the channels A B and B C, or by the straight channel A C, or by the curved one A O C,—it is evident that the tides in the one would be equal to the tides in the other; for, since the water cannot rise at A without being depressed at C, it is manifest, that, as the lakes are equal, the rise in the one would be precisely equal to the depression in the other, and vice versa.

II. If, on the other hand, one of the lakes be double of the other in surface, the tides in the smaller lake will be twice as great as the tides in the larger; for since by the supposition no water can get into either from an extraneous source, when the larger lake rises 4 feet the smaller one must sink 8 feet, and when the larger lake sinks 4 feet it must do it by raising the smaller one 8 feet.—The same phenomena will appear, if the smaller lake be situated towards one of the poles,—say 60 degrees north latitude,—and the larger lake on the equator;—say 90 degrees west. When the moon is on the meridian of the smaller lake she will be in the horizon of the larger one, and 60 degrees from the horizon of the smaller one; and consequently there will be a slight depression in the larger lake, and twice as great an elevation in the smaller:—but when the moon comes to the zenith of the larger lake she will be in the horizon of the smaller; in which situation she produces as great an effect as she can produce; and there will be a considerable rise in the larger lake, with twice as great a depression in the smaller.

III. If the smaller lake be at the north pole, and the larger one at the equator, there would still be tides in them; for though the moon might be considered as constantly in the horizon of the smaller lake; yet she would produce unequal pressures on the waters of the large lake,—depressing it when in the horizon, and elevating it when in the zenith and nadir, and consequently producing double elevations and depressions in the smaller lake.

What would take place with respect to these lakes, does absolutely take place as it respects the wide seas and the narrow. They are connected together in such a way as to permit the waters to rise in one sea while they are depressed in every other that is 90 degrees distant; and if the one where the waters rise be smaller than those where the waters fall, there must be a greater rise in the small sea than there is a depression in the larger. There cannot be a rise in one place without a depression in some other place;—and that place has already been shown to be 90 degrees from the greatest elevation.

What we have now said concerning the moon, is equally applicable to the sun;—only that his power is not so great as the moon's. For if you suppose *D* to be the sun, his distance from *B* 24000 semidiameters of the earth, and his weight 169282 times that of the earth; if the attraction of the earth for a particle of matter at *C* be 1, then will the attraction of the

sun be $\frac{1}{24000 \times 24000} \times 169282 = \frac{1}{3402}$. If this force, again, be

resolved into the forces *C M* and *C B*, then, as *C M* is 24000 times as long as *C B*, the gravity of a particle at *C* will be increased only one 24000th part of the sun's attraction at *C*.

We might dilate on the new doctrine we have broached to account for the tides rising higher in the narrow seas than in the wide ones; but if we have demonstrated that tides in the lakes, situated as above, would rise inversely as the superficial extent of those lakes, the application of the doctrine to the seas themselves is so easy, that we shall leave it to be made by our readers. Indeed, we are vain enough to believe, that the hints of demonstration which we have here thrown out might be advantageously amplified by applying them to the various phenomena attending the ebb and flow of tides; but, for the present, we must leave such an amplification to those who are able to publish larger books than we can; and content ourselves with hoping that at some future time we may have another occasion of drawing the attention of our readers to this very interesting, though rather obscure, portion of astronomy.

ART. V.—*Letters from Virginia.* By a Northern Man.

THE following Letters were written by a Gentleman from the north during an excursion through Virginia. A series of the same kind will probably be given to the public in the course of the ensuing summer.

Letter I.

DEAR FRANK,—Inasmuch as I only mean to give you a few occasional sketches of ‘Ould Virginia,’ as captain Smith calls it, I shall content myself with merely reminding you that its first effectual settlement commenced somewhat more than two centuries ago, and a few years anterior to that of Plymouth, in Massachusetts, the oldest settlement, I think, in that quarter. Farther back than this I will not go; for, to use the words of the first historian of Virginia, so called after ‘the most famous, renowned, and worthie of all memorie, queen Elizabeth’—‘For the stories of Arthur, Malgo, and Brandon, that say a thousand years agoe they were in the north of America; or the Fryer of Linn, that by his black art went to the north pole, in the yeare 1360; in that I know them not. Let this suffice.’

The history from whence this extract is taken is highly curious, and contains a variety of minute particulars of the dangers and hardships encountered by the early adventurers. Among these the most sagacious, brave, and enterprising, by far, was the famous captain John Smith, who, on all occasions of emergency, acted as a sort of dictator among them. It was he that negotiated or fought with the Indians; explored the neighbouring waters, and visited the Indian tribes on the Chesapeake and its tributary streams. He visited the ‘Weanocks, Anontahocks, Appamattocks, Manahocks, Massawomocks, Kusharawocks, Sasquasahannocks, Acquintanahocks, Quiyoughcohanocks;’ and all the names that end in *nocks*; at the end of which pilgrimage he breaks forth into the following poetic stanzas:

‘Thus have I walkt a wayless way, with *uncouth* pace,
Which yet no christian man did ever trace,
But yet I know this not affects the minde,
Which eares doth heare, as that which eyes doe finde.’

The first explorers of James river, called Powhatan, after the great emperor, were, it appears, subjected to a variety of inevitable hardships; sometimes were ill governed, and not unfrequently rather difficult to govern. A writer makes the following complaints against a certain president of the colony:

‘Had we,’ says he, ‘been as free from all sinnes as gluttony and drunkennesse, we might have been canonized for saintes; but our president would never have been admitted, for ingrossing to his private oatmeale, sacke, oyle, *aqua vitæ*, beefe, egges, or what not, but the kettell: that indeed he allowed equally to be distributed, and that was halfe a pint of wheat, and as much barley, boiled

with water, for a man, a day; and this being fryed some 26 weeks in the ship's hold, contained as many wormes as graines; so that we might trulie call it rather so much branne as corne. Our drink was water; our lodgings castles in the ayre.'

This notable president was deposed, and another chosen, 'who,' says the historian, 'being little beloved, and of weake judgment in dangers, and lesse industrie in peace, committed the managing of all things abroad to captaine Smith, who, by his owne example, good wordes, and faire promises, set some to mow, others to binde the thatch, some to build houses, others to thatch them, *himselfe bearinge the greatest taske for his owne share, so that, in a short time, he provided most of them with lodgings, neglectinge any for himselfe.*'

How admirably this simple picture sets forth the fine character of Smith; himself the first example of industry, in procur-ing shelter, and the last to take advantage of it. Only give such men a sphere of action, and they will lead all mankind by the nose, whenever danger comes.

In this way Jamestown was built, on what was then the territory of the great emperor Powhatan, a name inseparably connected with the early history of Virginia. Powhatan appears to have been a 'salvage,' as the phrase then was, of liberal and magnanimous principles, although he became at last an irreconcilable enemy to the white people. It appears that the 'salvages,' all along the coast of North America, with very few exceptions, treated the whites with hospitality, while they continued to think them mere visitors. But whenever it was discovered that they came with views of permanent settlement, a sort of vague perception of what would be the final result to themselves and their posterity, generally converted this friendly disposition into deep, permanent, and irreconcilable hostility. Powhatan was so called from the place of his residence; but his real name was *Wahunsonack*. The person and state of 'Powhatan the great emperor' is thus described.

'He is of personage a tall, well-proportioned man, with a soure look, his head somewhat gray, his beard so thinne that it seemeth none at all; his age near sixtie, of a very able and hardy body to endure anye labour. About his person ordinarily attended 40 or 50 of the tallest men his countrie doth afforde. Every night upon the foure quarters of his house are foure sentinells, each from the other a flight shoot, and at everye halfe houre one from the *corps du guard* doth hollow, shaking his lips with his finger between them, untoe whom every sentinell doth answer round from his stand. If any dothe faile, they presentlie send forth an officer that beateth them extreamelye.'

From Jamestown they penetrated up the river by degrees to a place at the '*Falles*,' where they founded a settlement, and called it *Nonsuch*, because 'they knew no place so strong, so

pleasant and delightful, in Virginia.' This, I presume, was what is now called Richmond. I do not mean to enter into any further details of these matters; having neither time nor patience; although there is something in the fire-side simplicity and minuteness of these early historians that is inexpressibly interesting to their descendants, and countrymen of the first old argonauts of this western world. But to copy these is rather a tedious job; and so I must refer you to the history itself, which, however, is very scarce. In it you will read the familiar details of the progress of the colonists, the treachery of the 'savages,' the gallantry of Smith—the treason of certain Dutchmen, and, above all, the beautiful and romantic story of the tutelary angel Pocahontas:—how she saved Smith first, and afterwards the colony from extermination—how she married 'to Master John Rolfe, an honest gentleman, of good behaviour'—how she went to England, was christened Rebecca, and died, in 1617, making 'a goodlie and religious ende.' All this you will find told with that picturesque simplicity and nature, which so often accompanies the relations of those who tell what they have seen, and which is so infinitely preferable to the laboured and rhetorical flourishes of after writers, whose art seems to consist in spreading the least possible quantity of matter over the greatest possible surface.

Though I abhor copying any thing, and had rather write out of my own head, as the saying is, a great deal, yet I cannot just now refrain from transcribing the following curious directions for the outfit of such 'as shall have cause to provide to go to Virginia, whereby greate numbers may in parte conceive the better how to provide for themselves.' It is worth all the vague talk in the world about the state of the times, and the simplicity of living among the first adventurers.

	s.	d.
' A Monmouth cap,	1	10
3 Falling bands,	1	3
3 Shirts,	7	6
1 Waste coat,	2	2
1 Suit of canvas,	7	6
1 Suit of frize,	10	0
1 Suit of cloth,	15	0
3 Paire of Irish stockings,	4	0
4 Paire of shoes,	8	8
1 Paire of garters,	0	10
1 Dozen points,	0	3
1 Paire of canvas sheets,	8	0
7 Ells of canvas, to make a bed, to be filled in Virginia, serving for two men,	8	0
5 Ells of coarse canvas, to make a bed at sea for two men,	5	0
A coarse rug at sea, for two men,	6	0
	<hr/>	
	L. 4	6 0

What would one of our spruce supercargoes say to such an outfit for a new world, I wonder, Frank? The whole of the indispensable necessities for a family emigrating to Virginia, clothes, victuals, arms, tools, furniture, &c. is estimated by the writer at twenty pounds!

Thus have I fairly settled Virginia, and as fairly settled you down in it, with my own hand. I will bring its history down to the present time in as few words as possible. Like other states it grew, and spread, and flourished, and increased in population by the good old way, only a good deal faster than they before did these things; the women, as will be found by experience, always accommodating themselves to the exigencies of a new country. In a little while the stately thatched castles of Jamestown became crowded with little white headed urchins, that grew by rolling and sunning themselves in the sand,—and when they got to be men, the hive swarmed, and the young bees went forth, made a new hive, which swarmed again,—until in process of time the land was peopled, and became a goodly state. Neither Neptune, nor Jupiter, nor Minerva, took them especially under their protection: nor did Medea assist them in overcoming the obstacles in their way by any of the arts of magic. Fortitude, valour, perseverance, industry, and little Pocahontas, were their tutelary deities; and their golden fleece, fields of corn, and plantations of tobacco. Good bye.

Letter II.

DEAR FRANK,—The first settlers of Virginia generally located larger tracts of land, than those to the north, either because they saw more clearly its prospective value, or that the early introduction of slaves enabled them to cultivate more extensively. Hence arose the distinction subsisting between the two parts of the Union—the one being occupied by farmers, cultivating farms, the other by planters, cultivating plantations.

To this day, the land in the occupancy of individuals lies mostly in large tracts, some of them containing several thousand acres. In one of my late excursions previous to setting out on my *grand tour*, I spent several days at the seat of one of these planters; who, by the way, was a lady, and such a one as you will not see every day, Frank. In the place of general description, which is for the most part vague and unsatisfactory, take the following picture; which, however, is a favourable one; as the establishment was one of the most liberal and hospitable of any in Virginia.

The master of the house, at least the gentleman who officiated as such, was a son-in-law of the family, who dressed exceedingly

plain, and who, I soon found, was a well educated, lively, good-humoured, sensible man; though if I were to tell you, and you to tell your good lady-aunt Kate, that he never drank any thing but water, she would no more believe it, than she believes in the story of parson P—'s amorous propensities. A stranger here, is just as much at home as a child in its cradle. Indeed I have heard a story of a gentleman from our part of the world, who stopt here, *en passant*, with his wife, carriage, and servants; forgot in a little time that he was not at home, and staid more than half a year! Nay, so far did this delusion extend, that the lady visitor forgot herself so completely, as to find fault with the visits of the respectable country squires to the hospitable mansion, and to refuse to sit at table with them! In short, I am credibly informed, she quarrelled with a most respectable old silver family tea-pot, which still keeps its stand on the breakfast table, and out of which I used to drink tea with infinite satisfaction,—because it was not gold, such as they used at her father's.

A day's residence here convinces you that you occasion no restraint; consequently that you are welcome; and therefore you feel all the freedom of home. Whenever I see the servants running about—the house in the hurry of preparation, and the furniture turned topsy turvy on my arrival, I make my visit very short; because I know by my own experience, that people never like what gives them trouble, and however they be inclined to give a hearty welcome, must inevitably be glad of my departure. Here the ladies attend, as usual, to their own amusements and employments. You are told the carriage or horses are at your service—that you can fish, or hunt, or lounge, or read, just as you please; and every one makes his choice.

The plantation is large; containing, I believe, between nine and ten thousand acres; and several hundred negroes are attached to it. Some of the females are employed in taking care of the children, or in household occupations; others in the fields; while the old ones enjoy a sort of *otium cum dignitate*, at their quarters. These quarters consist of log cabins, disposed in two rows on either side a wide avenue, with each a little garden, in which they raise vegetables. White-washed and clean, they exhibited an appearance of comfort, which, in some measure, served to reconcile me to bondage. At the door of one of these, as we walked this way one evening, stood a little old negro, with his body bent in a curve, and his head as white as snow, leaning on what an Irishman would call a shillalah. He was the patriarch of the tribe; and enjoyed in his old age a life of perfect ease. You might hear him laugh half a mile; and he seemed to possess a full portion of that unreflecting gayety,

which, happily for his race, so generally falls to their portion, and perhaps makes them some amends for the loss of freedom. Relying on their master for the supply of all their wants, they are in a sort of state of childhood,—equally exempt with children, from all the cares of providing support and subsistence, for their offspring. This old man is of an unknown age; his birth being beyond history or tradition; and having once been in the service of lord Dunmore, he looks down with a dignified contempt on the plebeian slaves around him. The greatest aristocrat in the world, is one of these fellows who has belonged to a great man,—I mean with the exception of his master.

The harvest commenced while I was here; and you would have been astonished, to see what work they made with a field of wheat, containing, I was told, upwards of five hundred acres. All hands turned out; and by night it was all in shocks. An army of locusts could not have swept it away half so soon, had it been green. I happened to be riding through the fields at twelve o'clock, and saw the women coming out singing, gallantly bonnetted with large trays, containing hoe and corn bread,—a food they prefer to all other. It was gratifying to see them enjoying this wholesome dinner; for since their lot is beyond remedy, it was consoling to find it mitigated by kindness and plenty. I hope, and trust, that this practice is general; for though the present generation cannot be charged with this system of slavery, they owe it to humanity—to the reputation of their country—they stand charged with an awful accountability to him who created this difference in complexion, to mitigate its evils as far as possible.

We, in our part of the world, are accustomed to stigmatize Virginia and the more southern states, with the imputed guilt of the system of slavery which yet subsists among them,—although records are still extant which show that it was entailed upon their ancestors by the British government; which encouraged the importation of slaves into these colonies, in spite of the repeated remonstrances of the colonial legislatures. The present generation found them on its lands,—and the great majority of planters with whom I conversed, lament an evil which cannot be cured by immediate emancipation—which seems almost to baffle the hopes of futurity—and which, while it appears as a stain on the lustre of their freedom, seems almost beyond the reach of a remedy. The country beyond the mountains has few slaves: and if I ever get there, I shall attempt perhaps to sketch the difference of character and habits originating in that circumstance.

I left this most respectable and hospitable mansion, after staying about a week; at the end of which I began to be able to

account for the delusion of the gentleman and lady I told you about in the first part of this letter. I began to feel myself mightily at home; and, as the Virginians say, felt a *heap* of regret at bidding the excellent lady and her family good bye. She had two little daughters not grown up; who are receiving that sort of domestic education at home, which is very common in Virginia. They perhaps will not dance better than becomes a modest woman, as some ladies do—nor run their fingers so fast over a piano—nor wear such short petticoats as our town bred misses; but they will probably make amends for these deficiencies, by the chaste simplicity of their manners—the superior cultivation of their minds, and the unadulterated purity of their hearts. They will, to sum up all in one word, make better wives for it, Frank,—the only character in which a really valuable woman can ever shine. The oldest was a fair blue-eyed lassie, who, I prophecy, will one day be the belle of Virginia.

The turn which my letter has unaccountably taken, brings to my mind, what I had like to have forgot,—a manuscript work, which afforded me infinite satisfaction, and tickled me in some of my susceptible parts. I used to lay on the sopha in the stately hall, during the sultry part of the day, and read it with wonderful gusto. It is written by an ancestor of the lady with whom I was a guest,—a high man in his day. Strangers as they pass up James's river, are still shown the house, where he once lived in princely splendour; giving welcome and shelter to high and low that passed that way. Judging by the work the author was a deep scholar; a man of great observation, and a sly joker on womankind. He never misses an opportunity of giving a shrewd cut at them; and as I especially recollect, records with great satisfaction, the theological opinions of one Bearskin, an Indian philosopher, who accompanied him in running the line between Virginia and North Carolina.

Bearskin's paradise was an improvement on that of Mahomet. It was peopled with beautiful maids, gifted with every personal charm, and endowed with every intellectual gift; of which last they made the most excellent use—by never speaking a word. In addition to this, they were extremely docile and good natured; obeying every wish or command, of course, without the least grumbling. The sage Bearskin's place of punishment, was a terrible place; containing nothing but ugly old women who—but let us not insult the memory of our mothers and grandmothers, who some of them doubtless were not beauties, if I may judge by the family pictures. The style of this work is, I think, the finest specimen of that grave, stately, and

quaint mode of writing, fashionable about a century ago, that I have met with any where.

Remember me to the lads of the club, which by my calendar meats to night,—and good bye.

ART. VI.—1. *Sacred Songs*. By T. Moore, Esq.

2. *Airs of Palestine*. By J. Pierpont, Esq.

IF we may judge from the pointing of these straws, a new school of poetry,—intermediate between the common and the metaphysical,—is about to be established. It was the fundamental principle of metaphysical poetry,—that the material and the intellectual worlds are, in every particular, analogous to each other: and the great object of those who were the founders or the followers of the school, was to develop and illustrate this analogy to its utmost possible extent. They were the most laborious of all writers. They dug most elaborately after profound and unheard of conceits: they would use no idea unless it was fetched a great way; nor, when they did use it, would they give it up till they had carried it as much farther. They were perpetually engaged in bringing remote thoughts together,—in demonstrating resemblances between objects and events, which, to more superficial investigators, had always appeared either as having to each other the relation of contrariety, or as having no relation at all. Common poets generally propose as the subject of their story some interesting fact or transaction, and are content to illustrate and adorn it by means of similies and metaphors:—whereas the metaphysical writers made the similies and metaphors their subjects, and employed the facts and transactions to illustrate and adorn *them*. To the one a metaphor was only subordinate and auxiliary:—to the other it was principal and all in all. A common poet would hardly think of writing an epic upon any subject short of the siege of Troy;—the metaphysical poet would contrive to produce one upon a mere figure of speech.

We have been thus specific, because an account of the singular race of poets who arose about the middle of the 17th century, will enable our readers to comprehend more easily what we shall have occasion to say of a somewhat similar race which is about to spring up not far from the beginning of the 19th. The school of which Mr. Moore is to be the leader (for never did any celebrated writer, either of prose or of poetry, strike into a new path of composition, without very soon finding an adequate number of followers at his back),—propose for themselves an object somewhat similar to that which was in the view of the metaphysicians:—the only very great difference between the two schools being, that the object of the former is

not so far off as that of the latter. Both treat a subject in pretty much the same way; but both do not, in a majority of cases, make choice of precisely the same sort of subjects. The thorough-going metaphysicians generally contrive to produce some conceit of their own, which it is their serious occupation to feel out and develop in all its possible ramifications and bearings:—whereas the half-way writers of the same order are content to borrow their conceits from the scriptures and the fathers, and generally undergo no more labour than serves to amplify and illustrate them. Both schools occasionally take some simile from profane authors; but both do not analyze and sublimize it to the same extent. The metaphysician works it up and *tinkers* with it so much, that when it comes from his hands there is hardly a single quality of the original subject:—the semi-metaphysician, on the contrary, never carries his investigation so far as materially to alter either the substance or the configuration of what he is working upon: though he seldom leaves it without having drawn out and exposed its several parts in a pretty violent and thorough way. The former are enabled, by their own alchemical perseverance, to evolve now and then an idea which is striking and valuable;—the latter depend for their thoughts upon the labours of others, and only aspire themselves to an originality of treatment. As the merit therefore of this sort of writing must, in a great degree, be proportionate to the labour it costs, the new school can lay claim to only about half the applause which critics have given to the old.—But, to compensate, in some measure, for the little expense of thinking, the semi-metaphysical poets have bestowed a very commendable degree of labour upon composition. Cowley, Donne, and the others of the old school, were very negligent about the harmony of their versification; and generally, indeed, succeeded very poorly in writing full resounding lines and chiming terminations. It would be impertinent, on the contrary, to tell our readers how smoothly Mr. Moore is accustomed to make his composition;—and as to Mr. Pierpont, we have only to say, that with our eyes, our ears, and our fingers perpetually employed, we were not able, during the perusal of his poem, to detect but one single line that was at all unharmonious and prosaic.

But we shall never make ourselves understood, till we have adduced some examples of what we mean. Thus Mr. Moore borrows a pretty little thought from St. Augustine, which he amplifies into the following stanzas.

‘ Oh fair! oh purest! be thou the dove,
That flies alone to some sunny grove:

And lives unseen, and bathes her wing,
 All vestal white, in the limpid spring;
 There, if the hovering hawk be near,
 That limpid spring in its mirror clear
 Reflects him, ere he can reach his prey,
 And warns the timorous bird away.
 The sacred pages of God's own book
 Shall be the spring, the eternal brook,
 In whose holy mirror, night and day,
 Thou wilt study Heaven's reflected ray:—
 And should the foes of Virtue dare,
 With gloomy wing to seek thee there,
 Thou wilt see how dark their shadows lie
 Between Heaven and thee, and trembling fly!—p. 176.

To illustrate still farther the foregoing observations,—and to exhibit at the same time a fair specimen of what each of the authors before us have done,—we shall extract from their respective works, the lines in which both have attempted to improve a passage of St. Luke:—

‘ Arrayed in clouds of golden light,
 More bright than Heaven's resplendent bow,
 Jehovah's angel came by night,
 To bless the sleeping world below!
 How soft the music of his tongue!
 How sweet the hallowed strains he sung!
 ‘ Good will henceforth to man be given;’
 The light of glory beams on earth;
 Let angels tune the harps of heaven,
 And saints below rejoice with mirth:
 On Bethlehem's plains the shepherds sing
 And Judah's children hail their King!’

Sacred Songs.—p. 151.

‘ While thus the shepherds watch'd the host of night,
 O'er heaven's blue concave flash'd a sudden light.
 The unrolling glory spread its folds divine,
 O'er the green hills and vales of Palestine:
 And lo! descending angels, hovering there,
 Stretch'd their loose wings, and in the purple air,
 Hung o'er the sleepless guardians of the fold:—
 When that high anthem, clear, and strong, and bold,
 On wavy paths of trembling ether ran:
 ‘ Glory to God;—benevolence to man;—
 Peace to the world:’—and in full concert came,
 From silver tubes, and harps of golden frame,
 The loud and sweet response, whose choral strains
 Lingered, and languished, on Judea's plains.
 Yon living lamps, charm'd from their chambers blue,
 By airs so heavenly, from the skies withdrew:

All?—all, but one, that hung and burn'd alone,
 And with mild lustre over Bethlehem shone.
 Chaldea's sages saw that orb afar,
 Glow unextinguished;—'twas Salvation's Star.'

Airs of Palestine.—p. 17.

These extracts are sufficient, we suppose, to give our readers an idea of what we mean by semi-metaphysical poetry. Mr. Moore is incontestably the founder of the school; but it may not be quite so indubitable that Mr. Pierpont is a follower. He might be too modest, perhaps, to have the honour thrust on him of being the second person to join in the institution of a new sect;—but we think, nevertheless, we can adduce a string of passages from his poem, which will establish his claims to the juniority beyond all possibility of doubt. The *Airs of Palestine* differ from the *Sacred Songs* only as here and there a straggling *simile on all fours* differs from an organized body of similes in the same predicament. The object of Mr. Pierpont seems to have been, to collect and versify all the passages, —particularly of the religious writers,—in which the powers of music are recorded or described. He sends his book into the world as a 'religious poem'; and, accordingly, his examples are taken, for the most part, from the sacred scriptures. Occasionally, indeed, he versifies a passage out of a profane author:—but from whatever source his thoughts are derived he is almost sure of carrying them too far. This is the predominant fault of his poetry; and it occurs not only in those passages where he is professedly attempting to amplify a borrowed idea,—but in those, also, which are more unquestionably his own, and in which he is professing to do no more than is done by versifiers in general. We shall have occasion to exhibit specimens of both sorts. In p. 3, the author attempts to show how music aids religion, by making it the breath which blows up the flame enkindled by religion around the frozen heart; which flame liquifies the said heart and evaporates it to heaven. Our chemical readers will fully understand the process.—Merely *melting* the heart—which satisfies common poets—would not do for Mr. Pierpont.

—'When Religion's mild and genial ray,
 Around the frozen heart, begins to play,
 Music's soft breath falls on the quivering light;
 The fire is kindled, and the flame is bright;
 And that cold mass, by either power assail'd,
 Is warm'd—made liquid—and to heaven exhal'd.'

Again, while Horace says very forcibly,—but very briefly,—that the top of a tree keeps off the fervid blows of the sun

(*fervidos excludet ictus*), the author before us must needs represent the tree as an army with banners, and the innumerable shaking leaves as so many shields turned this way and that to ward off the rays.

‘ Here arching vines their leafy banner spread,
Shake their green shields, and purple odours shed;
At once repelling Syria’s burning ray,
And breathing freshness on the sultry day.’—p. 6.

The simple expression of Joshua—‘ and the sun stood still,’—is thus worked up and amplified by Mr. Pierpont.

‘ The sun can tell:—O’er Gibeon’s vale of blood,
Curving their beamy necks, his coursers stood,
Held by that hero’s arm, to light his wrath,
And roll their glorious eyes, upon his crimson path.’—p. 9, 10.

We have two objections to these four lines. In the first place, there seems to be something very inappropriate,—if not absolutely profane,—in mingling the heathen mythology with the true religion: and, in the second place, even if this were perfectly proper, there still seems to be a great impropriety in making any additions to scriptural poetry. If it can be cast into regular verse without materially changing its substance, there can be no objection to the procedure; but to alloy it with extraneous thoughts appears to us very irreverent; and if the most terrible of all menaces are denounced against those who add a jot or tittle to the facts recorded in the sacred book, perhaps a correspondent denunciation should await those who are guilty of adding any thing to the poetry which it contains. What is here said applies generally to the poetry of the new school we have said so much about.—But we must pass on.—When a common writer has occasion to speak of poetic genius he goes no farther than to compare it, generally, with fire;—but the author before us would not stop short of representing the fire as coming out at the end of the fingers, and setting the whole room in a blaze. We can make nothing else out of the following lines:—

‘ As the young harper tries each quivering wire,
It leaps and sparkles with prophetic fire,
And, with the kindling song, the kindling rays
Around his fingers tremulously blaze,
Till the whole hall, like those blest fields above,
Glows with the light of melody and love.’—p. 15.

‘ And suddenly there was a great earthquake, so that the foundations of the prison were shaken, and immediately the doors were opened, and every one’s bands were loosed,’—is a simple passage of the Acts which *may* have some distant resemblance to Mr. Pierpont’s paraphrase.

'With thundering crash, are burst bolts, bars, and locks;
Rent are their chains, and shivered are their stocks;
Strong tides of light gush through the yielding doors,
Glance on the walls, and flash along the floors.'—p. 18.

A missionary's skiff 'shoots,' 'walks,' and 'glides' on the river of Paraguay,—bearing on her breast the apostolic star, lanced from the pierced hand of the Redeemer, and leaving a path of light in the east, which descends in a radiant curve to the west,—strikes upon the humble prow of the Jesuit's canoe, and glances off to the water below. What else are we to make of this paragraph?

'Round the bold front of yon projecting cliff,
Shoots on white wings the missionary's skiff,
And, walking steadily along the tide,
Seems, like a phantom, o'er the wave to glide,
Unfolding to the breeze her light cymar,
And bearing on her breast the Apostolic star.
That brilliant orb the bless'd Redeemer hurl'd,
From his pierc'd hand, ere he forsook the world.
Lanch'd by that hand, the sphere, divinely bright,
Has left on eastern clouds, its path of light,
And, in a radiant curve, descends to bless
Parana's wave, Paraguay's wilderness.
See! it has check'd its lucid course, and now
Lights on the intrepid Jesuit's humble prow,
Brightens his sail, with its celestial glow,
And gilds the emerald wave that rolls below.'—p. 23, 24.

Ordinary poets very frequently personify trees so far as to call their branches, arms;—Mr. Pierpont must pursue the simile quite down to the fingers. There is something not only forced, but absolutely ludicrous, in the following allusion to 'long, sweeping fingers.'

'Salem's harp, by patriot pride unstrung,
Wrapp'd in the mist, that o'er the river hung,
Felt but the breeze, that wanton'd o'er the billow,
And the long, sweeping fingers of the willow.'—p. 27, 28.

In another place he presents us with the still more ludicrous and boxing-like image of oak trees brandishing their arms and daring the winds to come on. He could not be satisfied, like other writers, with the bare metaphor of calling them giants.

'With weary foot the nearest height he climbs,
Crown'd with huge oaks, giants of other times;
Who feel, but fear not autumn's breath, and cast
Their summer robes upon the roaring blast,
And glorying in their majesty of form,
Toss their old arms, and challenge every storm.'—p. 33.

These are all the passages which we can afford room for;—though they are by no means all that we might adduce. The whole poem is a mere tissue of similar descriptions: and to give it a thorough analysis, therefore, would occupy a great deal more space than can possibly be spared. Enough has been extracted, we apprehend, to give our readers a pretty just view of the work. When we see a writer borrowing his ideas from others, and then husbanding and making the most of them, as Mr. Pierpont has done in the passages cited above,—we are compelled to infer, either that he is deficient in original opulence of thought, or that he is too indolent to employ his own powers of reflection, and is content to live upon the reflection of his predecessors. Under which of these conclusions the author before us must fall, we have not the means of determining;—but from the richness of those occasional passages in which he abandons his leaders, and thinks for himself, we are inclined to believe that he is by no means destitute of talents for poetry. If Mr. Pierpont would always write such lines as these, we should be glad to meet him very often:—

‘Here let us pause:—the opening prospect view:—
How fresh this mountain air!—how soft the blue,
That throws its mantle o’er the length’ning scene!
Those waving groves—those vales of living green—
Those yellow fields—that lake’s cerulean face,
That meets, with curling smiles, the cool embrace
Of roaring torrents, lull’d by her to rest;—
That white cloud, melting on the mountain’s breast;
How the wide landscape laughs upon the sky!
How rich the light, that gives it to the eye!

Where lies our path?—though many a vista call,
We may admire, but cannot tread them all.

Where lies our path!—a poet, and inquire

What hills, what vales, what streams become the lyre!’—p. 4.

Passages of this sort derive additional lustre from being surrounded by such obscure ones as the following;—in which there is such a confusion and mixture of metaphor that the most we can make out is, that Triumph is a wire-dancer:—

‘But if, when joy and gratitude inspire,
Such high-ton’d triumph walks along the lyre,
What are its breathings, when pale Sorrow flings
Her tearful touches, o’er its trembling strings?’—p. 8.

The whole of the first page is another very elaborate and obscure passage. We have found too many incongruous expressions for a poem no longer than this;—such as ‘purple odours’—as if smells were known by their colour—

‘No blackening thunder *smok’d* along the wall’—

‘And light and music *mingle* on the hill’—

- ' Glows with the light of *melody* and *love*'—
- ' The *lightning flash* fades on the serpent's tongue'—
- ' Or glow-worm burning *greenly* on the wall'—
- ' And *wakes* the *eternal* tumult of the tides'—&c.

And the author is too fond of alliteration.

- ' Play'd Mercy's beams—the *lambent light* of *love*'—
- ' The *lordly lion* leaves his *lonely lair*'—
- ' How sad the Saviour's song! how sweet! how holy!'—
- ' With thundering crash are burst bolts, bars and locks'—
- ' Through rifted rocks and hollow rumbling caves'—
- ' Or deep beneath him burst with boundless roar'—&c.

Upon the whole, then, we cannot think very highly of Mr. Pierpont's *Airs of Palestine*. It is evidently the result of great labour; for great labour, indeed, constitutes the principal attribute of that class of writers to which he belongs;—and it is on account of this very circumstance, too, that they fail of producing any thing which, in the true sense of the word, can be denominated poetry. The fetching and carrying of similes too far has long been a subject of critical reprobation. Writers of the purest taste are sometimes detected in it; though none but the metaphysical and semi-metaphysical writers have ever reduced such bad taste to a regular and systematic method of composition. The two leading faults of the system are, that, in the first place, it detracts greatly from the pleasure received in the perusal of poetry, by constantly associating with what we read a sense of the great labour employed in producing it;—while, secondly, it destroys all the force of metaphorical allusion, by tracing analogies beyond those particulars in which the two things compared can be at all alike. When Mr. Pierpont tells us, for example, that music and religion together have power to liquidate the frozen heart, and evaporate it to heaven,—could it have escaped him that a man, left without a heart at all, must be a very strange sort of a creature? Or when he represents the oak as brandishing his arms to challenge the winds,—does he not force us to see that the oak could do no such thing till the winds had actually encountered him, and that the challenge, therefore, must necessarily come subsequently to the duel? All metaphors are, at the bottom, without any stable support; and the only way in which they become forcible at all, is by the exhibition of such superficial ramifications as are obviously analogous. By carrying the simile further, we are shown its fundamental inapplicableness, and grow sceptical at once about the applicableness of all the superstructed particulars. We forget, besides, the occasion on which it is introduced, by being called off to inspect the parts of the simile itself:—and thus, in two ways, the extrava-

gant pursuit of metaphors is calculated to destroy their force and appropriateness. We look upon the taste of the school of this sort of poetry, therefore, as radically and essentially vicious.

We have taken this pains to expose its general faultiness, because we are afraid, that, although neither the form nor the size of the present eruption is so aggravated as that of the original stream,—yet, if not checked at the source, it will augment as it proceeds, and become, at length, too strong to be opposed by such feeble obstructions as our poor quills. ‘A stream which will scarce bear a straw at its source (said a Persian king to his son, when he cautioned him against neglecting even small enemies) grows in its course strong enough to carry away a camel and its burthen.’ We consider Mr. Moore as a great deal more to blame than Mr. Pierpont; though, we think, the poetry of the latter is more extravagantly metaphysical than that of the former. And the very greatest praise which, it appears to us, can be bestowed upon the Sacred Songs or the Airs of Palestine—is—that they are *pretty things*.

ART. VII.—*A Biographical Dictionary of the living Authors of Great Britain and Ireland; comprising literary Memoirs and Anecdotes of their Lives; and a Chronological Register of their Publications; with the Number of Editions printed; including Notices of some foreign Writers, whose Works have been occasionally published in England. Illustrated by a Variety of Communications from Persons of the first Eminence in the World of Letters.* London. 8vo. pp. 449. 1816.

WE had occasion to remark, in a former volume, that the contents of this work very strangely belie the title-page. You will seek in vain for the ‘memoirs,’ ‘anecdotes,’ and ‘communications from persons of the first eminence,’ about which so much vaunting is displayed. The ‘biography,’ of which we are led to form such great expectations, consists, in general, of the name of the author—of the time of his birth—and of the number of his titles;—followed by a chronological list of books which he has put forth. Now and then, indeed, we have some very interesting details;—but it is regularly the case that the most insignificant authors occupy by far the greatest portion of room. We have found several articles, however, which have considerably amused us,—and a part of which we shall proceed to extract.

‘BROTHERS, RICHARD, a native of Placentia, Newfoundland, formerly a lieutenant in the navy. This crack-brained fanatic, about twenty years ago, excited a considerable share of public at-

tention. In his first publication, he declared himself to be the nephew of the Almighty, and the prince of the Hebrews, who was to restore the Jews to their ancient privileges, and to lead them to the land of Canaan. He also predicted the destruction of the city of London by an earthquake, and many other absurdities. Extravagant as were these pretensions, there were not wanting persons distinguished for abilities, who openly asserted the divinity of his mission. Among these the most conspicuous was Nathaniel Brassey Halhed, Esq. a member of parliament, and a gentleman eminent for his extensive attainments in classical, and particularly in oriental literature. Several pamphlets were published on the subject, and such was the infatuation of a few deluded persons, that they sold all they possessed, in order to be ready to accompany the prophet to the Holy Land. This mad enthusiast was at length properly noticed by government, and confined as a lunatic.'—p. 40.

'CANNING, Rt. Hon. GEORGE, M. P. for Liverpool, son of George C. Esq. barrister at law, a branch of the Cannings of Garvagh, in the county of Londonderry, but who settled at an early period of life in London. His son, born about 1770, was educated at Eton, and Christ Church College, Oxford. Whilst a senior scholar at the former seminary, he was a principal contributor, in association with Messrs. J. and R. Smith, and J. Frere to the *Microcosm*, a well known periodical paper, written entirely by Etonians. The papers by him are signed B. At the university Mr. C. gained several prizes by his compositions, and was, with Messrs. Frere and Ellis, a principal conductor of the *Antijacobin*, or *Weekly Examiner*, in 1798. On leaving college, he commenced the usual studies for the profession of the law, from which he was soon diverted into the field of politics. In 1793 he obtained a seat in parliament for Newtown, I. of Wight; in 1796 was elected for Wendover, and appointed one of the under secretaries of state, and receiver-general of the Alienation Office. In 1801, on the retirement of Mr. Pitt from power, Mr. C. resigned his situations, and was the following year returned for the Irish borough of Tralee. In 1803, when Mr. Pitt returned to the helm, Mr. C. became treasurer of the navy, which office he resigned on the death of his patron in 1806, when he was elected M. P. for Sligo. In 1807, on the formation of Mr. Perceval's administration, he was returned for Hastings, and became secretary of state for foreign affairs; but in 1809 a misunderstanding with his colleague lord Castlereagh, respecting the conduct of the fatal expedition against Walcheren, occasioned his resignation, and a duel, in which Mr. Canning was wounded. Since that time he has not filled any public station: he is supposed to be politically attached to the marquis Wellesley, and at the general election, in 1812, was chosen one of the representatives of Liverpool. Mr. C. is married to a daughter of the late general Scott, sister to the dutchess of Portland, with whom he received a considerable fortune.'—p. 53.

CARTWRIGHT, EDMUND, D.D. rector of Goadby Merwood, Leicestershire, and prebendary of Lincoln. This gentleman was born at Marnham, Nottinghamshire, 1743. He was educated under Mr. Clark of Wakefield, and Dr. Langhorne, till he was sent in 1760 to University College, Oxford. In 1762 he was elected a Demy of Magdalen College, and in 1764 a Fellow of that society. In 1779 he was presented to the rectory which he still holds, and in 1785, went to reside at Doncaster, where his extraordinary mechanical talents first discovered themselves in various inventions, particularly of a loom worked by machinery, and a machine for combing wool, for which as well as for an improvement in the steam engine he obtained a patent. In 1796 he removed to the metropolis, and on the death of Mr. Moore offered himself as secretary to the Society of Arts, but voluntarily withdrew in favour of a competitor, whose practical knowledge in the manufacturing line promised to be highly serviceable to the society. In 1801 he was invited by the late duke of Bedford to superintend his very extensive farming concerns at Woburn, and likewise a kind of agricultural college which that enlightened nobleman designed to establish; but this project was suddenly frustrated by the death of the duke. In 1807 his invention for weaving by machinery was beginning to be generally adopted, but as his patent right had expired several years before, it was then too late for him to reap any benefit from the circumstance: however, some of the principal merchants and manufacturers of Manchester, and its vicinity addressed a memorial to the lords of the treasury, setting forth the benefits which Dr. C. had conferred on his country, and praying a remuneration of his eminent services. The result was a proposal from Mr. Perceval, then chancellor of the exchequer, to parliament to grant Dr. C. 10,000*l.* which was unanimously agreed to. Dr. C. married first in 1772, Alice, daughter of Richard Whitaker, Esq. of Doncaster, who died in 1785; and secondly, in 1790, Susannah, youngest daughter of the Rev. Dr. John Kearney, precentor of Armagh.—p. 56, 57.

DAVY, REV. WILLIAM, A.B. curate of Lustleigh, Devonshire, formerly of Baliol College, Oxford. This gentleman is the editor, printer, and publisher of a compilation, intitled: ‘*A System of Divinity, in a Course of Sermons on the First Institutions of Religion—on some of the most important Articles of the Christian Religion in connexion—and on the several Virtues and Vices of Mankind; with occasional discourses. Being a compilation from the best sentiments of the polite writers and eminent sound divines, both ancient and modern, on the same subjects properly connected, with improvements; particularly adapted for the use of chiefs of families and students in divinity, for churches, and for the benefit of mankind in general, 26 v. 8vo. 1795-1807.*’ The history of this voluminous work affords an example of perseverance that can scarcely be paralleled in the annals of literature, though so fer-

tile in curiosities. Mr. D. having completed his collection, at first issued proposals for publishing it by subscription: but as he was poor, and, for obvious reasons, his theological labours obtained no patronage, he resolved to print it himself, that is, with his own hands. With a press, which he made for himself, and as many worn and cast-off types, purchased from a country printing-office, as sufficed to set up two pages, he fell to work in 1795. Performing with the assistance of his female domestic, every operation, and working off page by page, he struck off forty copies of the first three hundred pages; 26 of which he distributed among the universities, the bishops, the royal society and the reviews, hoping no doubt to receive from some of those quarters, that encouragement to which he thought himself entitled. Disappointed in this expectation, he resolved to spare himself the expense of paper in future: and as he had reserved only fourteen copies of the forty with which he commenced, three of which he mentions as being imperfect, he continued to print that number, and at the end of twelve years of unremitting toil, finished the whole 26 volumes. Disdaining any assistance, he then put them in boards with his own hands, and made a journey to London for the express purpose of depositing a copy in each of the most eminent public libraries of the metropolis.—p. 88, 89.

‘**GIFFORD, WILLIAM.** From a truly interesting biographical account of this gentleman, prefixed to his translation of Juvenal, it appears that he is a native of Ashburton, Devonshire, and was born in 1757. At the age of thirteen he became an orphan, by the loss of both his parents; was then placed on board a coaster at Brixton, by his god-father, who afterwards bound him apprentice to a shoe-maker, with whom he worked till his twentieth year. About this time some poetical trifles which he had produced, attracted the notice of a gentleman who interested himself so warmly in his behalf, that a subscription was raised expressly for the purpose of purchasing the remainder of his apprenticeship, and maintaining him for a short time, while he improved himself in writing and English grammar. Such, however, was his assiduity under the master provided for him, that his patrons extended their views, and determined to send him to the university. The office of Bib. Lect. at Exeter College, Oxford, was procured for him, and thither he removed. About this time he commenced his translation of Juvenal, which he proposed to publish by subscription; but afterwards relinquished that plan, and returned the money which he had received. Accident introduced him to the acquaintance of the late earl Grosvenor, whose son, the present earl, he accompanied in two successive tours to the continent, and by whom he was finally placed in ease and independence. His first avowed work was devoted to the chastisement of the poetasters of the *Della Crusca* school. He is understood to have been the editor of the

Antijacobin, or *Weekly Examiner*, as he is at present of the *Quarterly Review*.

‘GREATHEAD, HENRY, of South Shields, born at Richmond, Yorkshire, 1757. His father, who was comptroller of the salt duties at South Shields, apprenticed him to a boat-builder at that place. He afterwards embraced a sea-faring life, was for six years in the royal navy, during the American war, and in 1788 was shipwrecked on the French coast. In 1789 a committee of the ship-owners of S. Shields offered premiums for plans of a boat best calculated to save shipwrecked persons, and the preference was given to one proposed by Mr. G. whose invention under the name of the *Life Boat*, has been introduced in many places on the British coasts, and in 1802 procured him from parliament the sum of 1200*l*. In 1785 he married the daughter of Mr. Wood, collector of excise at Norwich.’—p. 135, 136.

‘HERSCHELL, WILLIAM, LL.D. F.R.S. This gentleman was born at Hanover in 1738, and was brought up to his father’s profession which was that of a musician. In 1759 he came to England, and was soon afterwards engaged as a performer on the hautboy in the band of the Durham militia. He next became organist at Halifax in Yorkshire, and in 1766 obtained a similar appointment at the Octagon Chapel, Bath. His leisure hours, while in these situations, were devoted with extraordinary assiduity to the study of the languages and the mathematical sciences. Astronomy also engaged his attention and at length absorbed all the time that he could spare from his profession. His observations were made with instruments of his own making, and his discoveries entitle him to the foremost rank among the astronomers of the present day. In 1781 he discovered a new planet in our system to which he gave the name of *Georgium Sidus*, and the same year communicated an account of it to the Royal Society, which unanimously elected him a member and conferred on him the gold medal. The year following his majesty appointed him his astronomer with a handsome salary, and a house at Slough near Windsor where he has ever since resided. Here he was enabled to accomplish various plans for the improvement of his favourite science; his grand forty feet reflecting telescope in particular is a noble monument of philosophical zeal and princely munificence. It was completed in 1789, and an ample account of it may be seen in the *Phil. Trans.* for 1795. To that work Dr. H. has ever since his first communication been a regular contributor. In his scientific pursuits he was assisted by his late sister, Carolina, who distinguished herself by her application to the sublime science of astronomy, and by several ingenious reports of her observations to the Royal Society.’ p. 153, 154.

‘PENN, JOHN, Esq. of Stoke Park, near Windsor, and of Spring Garden, London. This respectable gentleman is a lineal descendant of the founder of Pennsylvania; and though he does not pro-

fess the same religious faith, he is as much distinguished by talent and philanthropy. Mr. Penn has devoted much of his time to literary pursuits, and he has had the honour of being noticed by the marked esteem of our venerable sovereign and most of the royal family. Near his residence is Stoke Church, in which are deposited the remains of the poet Gray; and as a mark of respect to this great man, he has, in his own grounds, erected a mausoleum to his memory. This gentleman preserves with veneration part of the trunk of the tree under which his ancestors signed the treaty with the Indians.'—p. 269.

'REDE, L. S. barrister at law. This person, who never made any progress in his profession, contrived some years ago to gain a livelihood by cutting out extracts from newspapers, magazines, and other periodical publications. These he pasted on folio paper, and by dexterous combination he gave them the appearance of a curious and valuable collection of memoirs illustrative of the history of the times. For one of these sets, thus manufactured, with the aid of scissars and paste, a late noble duke gave the sum of three hundred guineas. But on some account or other the ingenious projector was under the necessity of withdrawing from the kingdom, and what has become of him we know not.'—p. 287, 288.

'SOUTHEY ROBERT, Esq. poet laureat. He was born August 12, 1774, at Bristol, where his father carried on an extensive business as a wholesale linen draper. The son was educated first under Mr. Foote a baptist minister of great ability, but at that time very aged. After a short time young Southey was removed to a school at Carston, where he remained about two years, and was then entered at Westminster school, in 1787, where, in 1790, he fell under censure for his concern in the rebellion excited against the master, Dr. Vincent. In 1792 he became a student of Baliol College, Oxford, with a view to the church, but Unitarian principles and the revolutionary mania put an end to that design. So strongly did he imbibe the new opinions on politics which the explosion in France had produced, that he, with his friends Lovell and Coleridge, projected a plan of settling on the banks of the Susquehannah in North America, and of there founding a new republic. This Utopian scheme was soon dissolved for the want of means, and in 1795 Mr. Southey married Miss Tricker, soon after which event he accompanied his maternal uncle the Rev. Mr. Hill to Portugal, that gentleman being appointed chaplain to the Factory at Lisbon. In 1801, Mr. Southey obtained the appointment of secretary to the right hon. Isaac Corry, chancellor of the exchequer for Ireland. On retiring from office with his patron, our author went to reside in a cottage near Keswick, where also dwelt under the same roof the widow of his friend Lovell and the wife of Mr. Coleridge, both which ladies are sisters to Mrs. Southey. In 1813 he succeeded Mr. Pye as poet laureat, and it must be confessed that, with some

slight exceptions, his subsequent performances are such as do credit to the appointment.'—p. 324, 325.

‘WALKER, ADAM, lecturer in natural and experimental philosophy. This self-taught genius was born on the banks of Windermere, in the county of Westmoreland. His father employed a few hands in the woollen manufacture: and having a large family, he took his son from school before the boy could read a chapter in the bible. The mechanical turn of the youth was not however to be smothered by hard labour. He copied corn mills, paper mills, and fulling mills, the models of which were constructed on a brook near his father's dwelling, to the surprise of passengers. He also borrowed books, and built a house for himself in a bush to read without interruption on Sundays. Thus he went on with such success, that a person, who discovered his extraordinary talents, offered him the ushership of Ledsham school, in the West Riding of Yorkshire. Here he began his career of teaching when he was no more than fifteen years of age, and had frequently to study over night, what he had to impart to his pupils the next morning. After continuing three years in that situation, he was chosen writing master and accomptant to the free school at Macclesfield, where he resided four years, and perfected himself in mathematics by his own application. At this place he embarked in trade, but failing in his business, he resolved to turn hermit in one of the islands on the lake of Windermere, from which romantic scheme he was diverted by the ridicule of his friends. His next enterprise was that of lecturing on astronomy at Manchester, where he met with a very favourable reception, which enabled him to establish an extensive seminary. This however he relinquished for the purpose of travelling as a lecturer in natural philosophy: and after visiting most of the great towns in the three kingdoms, he visited Dr. Priestley, by whose recommendation he undertook to lecture in the Haymarket, in 1778. The encouragement which he experienced in the metropolis induced him to take a house in George street, Hanover square, where he read lectures every winter to numerous audiences. He was also engaged by Dr. Barnard, provost of Eton College to lecture in that seminary; which example was followed by Westminster, Winchester, and other great schools. Among the variety of inventions with which Mr. Walker has amused himself, may be mentioned various engines for raising water; three methods by which ships may be easily pumped at sea; carriages to go by wind and steam; the patent émpyreal air stove; the patent celestina harpsichord; the Eidouranion, or transparent orrery; the rotatory lights on the island of Scilly; a boat that works against the stream; another that clears the bottoms of rivers by the stream or tide; a weather guage which, united to a clock, shows the quantity of rain, the direction and strength of the wind, the height of the barometer, the heat and moisture of the air; an easy method

of turning a river into a wet dock; a road mill; a machine for watering land; a dibbling plough, &c. &c.'—p. 367 368.

‘WATT, JAMES, F.R.S. and engineer at Birmingham. Mr. Watt is a native of Glasgow, where he was born about the year 1737. Having finished his grammatical studies and laid in a stock of useful elementary knowledge, he was apprenticed to what is called in the north an instrument maker, whose business consists in making and repairing the various machines and articles used in different professions, as music, surveying, navigation, &c. After serving three years he came to London, and worked some time with a mathematical instrument maker; but having contracted a complaint by sitting in winter at the door of the workshop, he went down to his native country where he set up for himself. While he was thus employed, the professor of natural philosophy in the university of Glasgow engaged him in repairing the old model of a steam engine, which by length of time had grown out of use. The artist in the course of his labour, was much struck with the contrivance, but he soon perceived defects which prevented it from being of more general advantage. From that instant he devoted himself to the improvement of this machine, particularly with regard to the saving of heat in the production and condensation of steam. By repeated observations he found that near four times the quantity of steam was wasted in comparison of that which actually worked the machine. He therefore endeavoured to diminish this waste, and after many trials he completely succeeded. This was about the year 1763, at which period he married a lady of Glasgow, without any property, by whom he had two children, which obliged him to lay aside his speculations, till Dr. Roebuck, a gentleman of science and property, joined him in his schemes, but their means were not adequate to their objects. In this situation Mr. Boulton fortunately becoming acquainted with Mr. Watt, instantly made him an offer of partnership which was accepted, and Dr. Roebuck being reimbursed for what he had expended, Mr. Watt removed with his family to Birmingham, where he has ever since been employed in the most extensive concerns, and in the sale of his engines, for which a patent was obtained, and an act of parliament to prolong its duration. Mr. Watt is also the author of many other inventions, particularly of the copying machine, by the help of which, what has taken a person several hours to write, may be transcribed in a few seconds. Soon after his settlement in Birmingham, having lost his wife, he married Miss M'Gregor, of Glasgow. Though a man of profound science and incessant activity, he is represented as being a lively companion, and very fond of reading novels and romances. Mr. Watt has some communications in the Philosophical Transactions, the Philosophical Magazine, and the Memoirs of the Manchester society.’—p. 377.

‘WOLCOTT, JOHN, M.D. This gentleman, who is more generally known by his poetical name of PETER PINDAR, was born at

Dodbrook, in Devonshire and educated at Kingsbridge, after which he was taken under the protection of his uncle, a surgeon and apothecary at Fovey in Cornwall. Here young Wolcott studied pharmacy with becoming diligence, occasionally amusing himself with poetry and drawing. On the appointment of sir William Trelawney to be governor of Jamaica in 1768, John obtained permission to go out in his suite, and the ship touching at Madeira, he wrote some of his best sonnets, descriptive of the natural beauties of the island. At Jamaica he commenced practice as a surgeon, and was nominated also physician to the governor, to qualify himself for which he procured a diploma from Scotland. A very remarkable circumstance, however, occurred, which had nearly diverted the pursuits of our author into another channel, and to have fixed him in the West Indies for life. The rector of St. Anne's dying while he was there, Dr. Wolcott was prevailed upon to officiate as a minister for some time, and this duty he discharged so much to the satisfaction of the planters, that they entreated the governor to procure the living for him. But as this could not be granted without the consent of the bishop of London, the doctor returned to England for that purpose. Being disappointed, and sir William Trelawney dying in the interim, he gave up all farther idea of the church, and went to settle as a physician at Truro, where he practised several years with some credit, though not without occasional bickerings with Mr. Rosewarne and other gentlemen of the neighbourhood, owing to the doctor's unconquerable turn for satire. Not long after his settlement at Truro, his circumstances were rendered easy by the death of his uncle, who left him an estate and about two thousand pounds in money. It was here that he had an opportunity of befriending genius by taking under his instruction and patronage John Opie, who from being an apprentice to a house carpenter in the village of St. Agnes, rose to be a celebrated painter and professor of the art in the royal academy. The doctor in his rides through the village was much struck with some rude sketches in chalk and a few on paper, that were shown him of this lad's performance, on which he invited Opie to his house, and there gave him such lessons and helps as enabled him in a short time to set up as an itinerant portrait painter. About the year 1778 Dr. Wolcott removed from Cornwall to London, where he resolved to live at his ease, and to indulge in literary amusements, which, however, soon proved of very substantial benefit. As a satirist he struck into a new line, and by a rich vein of humour peculiar to himself, contrived to fascinate the public attention. His works were read with great eagerness, and multiplied in successive editions, both here and abroad. It is however to be lamented that this son of humour did not observe uniformly more decorum in his productions, and particularly in the deference due to high rank and virtue. His attacks on the sovereign have been generally laughable, but too frequently scurrilous;

and it cannot be denied, even by the warmest admirers of the facetious bard that he has often exceeded even the bounds of poetical license in his caricatures of great personages and men of eminence. Some years ago he had a suit in chancery with his publishers, respecting the construction of an agreement by which they were to pay him two hundred and forty pounds a year for the copyright of his works. At the time when this contract was made, the doctor was labouring under an asthmatic complaint, and to all appearance had not long to live. By going into Cornwall, however, he recovered his health and returned to London without any cough, which was far from being a pleasing sight to the persons who were bound to pay his annuity. A plea was then set up that the agreement extended to all future pieces, as well as to the past; and on this ground an action was commenced which in a short time was compromised. The doctor was also embroiled in an unpleasant dispute with Mr. William Gifford, who having treated him rather severely in his Baviad and Mæviad, was assaulted by the redoubtable Peter, staff in hand, in Wright's shop in Piccadilly. Subsequently to this our merry wight has been prosecuted on a charge of another nature, by the husband of a young woman to whom he gave some lectures in the histrionic art. Luckily, however, nothing more serious came of this affair than a laughable exposure in the newspapers. The doctor, who is now far advanced in years, has been for some time deprived of sight by an incurable glaucoma.'—p. 394, 395.

ART. VIII.—*A Course of Legal Study, respectfully addressed to the Students of Law in the United States.* By David Hoffman, Professor of Law in the University of Maryland. 8vo. pp. 383. 1817. Baltimore.

THIS is an ingenious and successful effort to demonstrate the importance, and to designate the means, of introducing system and method into the prosecution of studies, preparatory to the profession of the law. Two causes have existed in this country to interfere with the objects which the author has in view;—*first*, an ambition of early distinction, which leads the youth of America, more than those of any other country, to place themselves in responsible situations, before their understandings are matured, or their memories properly stored with knowledge. This leads to what my Lord Coke calls *præ propera praxis*. And *secondly*, the frequency of assuming the labours of the profession, by those whose education and habits have been foreign from science and system; and who, if they have studied at all, have been content with what my Lord Coke calls *prepostera lectio*. Mr. Hoffman will essentially promote the interests of the community, and redeem the credit of a most honourable profession, if he can inscribe his

principles upon the minds of all who intend to enrol themselves among its members.

Without attempting to give lessons himself, the author of this work has undertaken to point out the sources from which instruction may be acquired;—to arrange the various books which he deems worthy of perusal in clear and comprehensive order;—to designate such parts as merit or require particular attention;—to point out the prevailing beauties and prominent defects of the many authors he enumerates;—to suggest the means which have been discovered by reflection and experience, of acquiring and using the knowledge they contain;—and, finally, to exhibit what is generally considered as a chaos of science, in a lucid and intelligible form. All this is done with industry and judgment. A course of lectures on the study of the law would require a volume much more extensive than that to which professor Hoffman has limited himself. To such, however, his present work would be a most useful auxiliary: and the same powers of discrimination which have enabled him to select the authors from whom information is to be derived, would eminently qualify him to analyze the matter of which they treat, and to communicate it to the student in the most elementary, and therefore the most beneficial form. Perhaps, in a treatise purely didactic, it had been better if the path had been strewn with fewer flowers; which, however they may amuse the fancy, certainly do not inform the understanding. A style somewhat more simple, both as to words and figures, would have been better adapted to the science of which it treats; and particularly to that department of it which professes merely to enumerate and to arrange. We should have preferred, for example, the substitution of less unusual words for the following;—*sciolous*, in several places,—particularly when accompanied by its synonyme *superficial*,—*facile*, *temerariouſly*, *evanescce*, *gladiation*. One science is sufficient at a time;—and though a harmonious word may more nicely balance a sentence, or round a period, yet if it obscure the meaning of a phrase, or dissipate a single thought, it is worse than useless.

With this little error,—for it can scarcely be called a fault,—we do not hesitate to give Mr. Hoffman's book decided praise. It is calculated, we think, to stimulate the idle; to encourage the ambitious, and to console the industrious. It may be read with advantage by the man of experience; and certainly cannot fail to prove to the pupil a key by which he will readily open the doors of science, and discover its most secret and valuable stores.

ART. IX. *Intelligence in Science, Literature, and the Arts.*

AS our usual supply of foreign Magazines has not been received, we shall not be able to give, at present, much interesting matter under this head. The sellers of books have experienced the distress which has fallen upon sellers of all other descriptions, in England; and a pressure upon the booksellers must, of course, fall ultimately upon the bookmakers. We have seen one or two catalogues of books which are in a course of publication; and never perhaps was the list more meagre and uninteresting. If, however, the resumption of payments in specie at the Bank of England be a good omen, we have the news of that to console us;—though the same journals which brought the intelligence, contained also an account of the alarming riot in London.—We have no certain information respecting the literature of the continent; but, if we may judge from the pages of our latest English Magazines, the people of Europe are paying as much attention to the subject as is compatible with the situation in which the wars have left them. Periodical works are now established in almost every country; and it seems, at length, to be admitted on all hands, that the diffusion of knowledge is the only sure way to promote the happiness of mankind. America is not—comparatively speaking—behind her sister continent. There is no set of works which, in our opinion, can form a distinct literature of our own; but, in almost every quarter, more attention, than has been usual, is now given to the subject; and we hope, before a century has passed, the people of the United States will be in a fair way of coming up with their brethren in Europe.

Our View of Boston was taken several years since; and though it does not, therefore, embrace every house which is now in sight from the place whence it was taken,—we believe it gives as adequate an idea of the town as, perhaps, *can* be given by any picture of the same description.

In our Number for January, of this year, we announced the publication of the first volume of Dr. Ramsay's History; and we have now the satisfaction of announcing that the whole is completed, by the publication of the two other volumes.

ERRATA.

In our last Number, page 100, line 32, dele *poesia*.

— 102, — 9, for *eluthesia* read *elutheria*.

— 105, — 10, for *callitexia* read *callilexia*.

In our present Number, page 184, line 25, for *from* read *form*.

— 234, — 7, for $\frac{1}{87}$ read $\frac{1}{139240}$.

* * We ought to have mentioned, too, that there are some things in the Review of Jewitt's Narrative, which are not contained in the Narrative itself; though they are as authentic as any other part of the work; as we had them from the mouth of the narrator himself.

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